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**COMBOS THAT**  
**WORK ON**  
**THE STREET**  
PG. 58



**SECOND-GEN**  
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PG. 36



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# SHOP TALK



## TOUGH TIMES

**T**wo recent tragic events spurred a period of introspection for me. One was the death of two spectators at a street race in Chatsworth, California. For years, we've danced around the subject of street racing in **Car Craft**. I've interviewed street racers all across the country, and all along, we were careful to not show any street racing in pictures, nor discuss it directly in print. What we were mainly after was the combination, and those articles basically amounted to recipes or formulas for readers to follow or adapt when building their own cars. It's grassroots car crafting, and I stand by those articles for the mechanical information they provide, but I do wish the stuff happened at a safer venue than a street.

I understand and sympathize on a certain level, though. Racing is expensive. Keep a tally of all the things track inspectors ding you and your fellow racers for—the necessary safety equipment just to run in the low-10s can be cost-prohibitive to the younger kids working with a tight budget. The argument from street racers is that it costs too much to race at the track. What's your life worth, though? It's easy to be cavalier about such things in your 20s. Still, I'd like to see rules for safety equipment be easier to understand, and I like to see venues where some of the rules are bent a bit to encourage street racers to race at a track. In spite

of the tough talk and posturing you see from some of these guys, I believe they'd choose the safer venue when given the choice. *Hot Rod* and **Car Craft** rented the dragstrip at California Speedway last January to test some of our own cars, and I took advantage of the opportunity to invite a few street racers whose cars I wanted to include in this issue's 10-Second Street Cars article (page 58). Just by word of mouth, we had an incredible turnout. People took off work, trailered their cars for hours, and we saw some great racing. Give people a safe, economical place to participate in motorsports, and they will use it. I believe track officials, local politicians, and enthusiasts can develop more grudge-race-type events or even closed-street, eighth-mile races like the event that just happened in Texas—or like the *Street Outlaws* show on TV. The Brotherhood of Street Racers is working to make events and venues like this possible, and we support their efforts.

The other tragedy was the untimely death of friend, colleague, and former **Car Craft** staffer John Kiewicz, whose last article appears on page 20 of this issue. John is the reason I am here at **Car Craft**. Late in 2002, I graduated from Ohio University with a bachelor's degree in visual communication, and I was having a terrible time finding a job as a newspaper photographer. My sister convinced me to contact *Motor*

*Trend* to inquire about the possibility of working for a car magazine, a job I lusted after but had long dismissed as pure fantasy. Not so, it turns out. John Kiewicz was on the other end of the phone at *MT*; an internship was available and he asked for my portfolio. I eventually became that intern and spent most of 2003 working with John more as a staffer than a gofer. It was incredible. John left *MT* a couple years later, and I moved on within the company, ending up at **Car Craft**. We reconnected when I took over **CC**; he offered to write a series of basic tech articles, and I was grateful for his help. We talked more regularly, too, not just about jobs but about our kids, dogs, cars, and about meeting at his house for a barbecue—personal stuff that was a welcome distraction for me. His last communication came via text message the day before he was killed in a traffic accident: "You are welcome anytime." I haven't deleted it. I'm not going to, and I mourn the loss. Hold on to what's important in your lives, and make the most of the time you've got.

—John McGann

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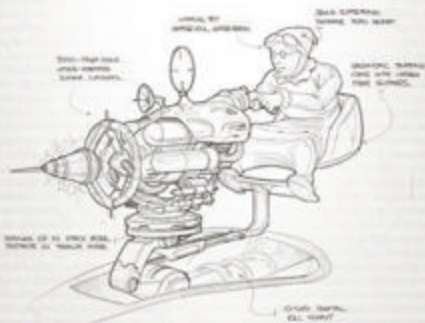
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# HORSEPOWER!

## 1,100HP, 357CI CHEVROLET

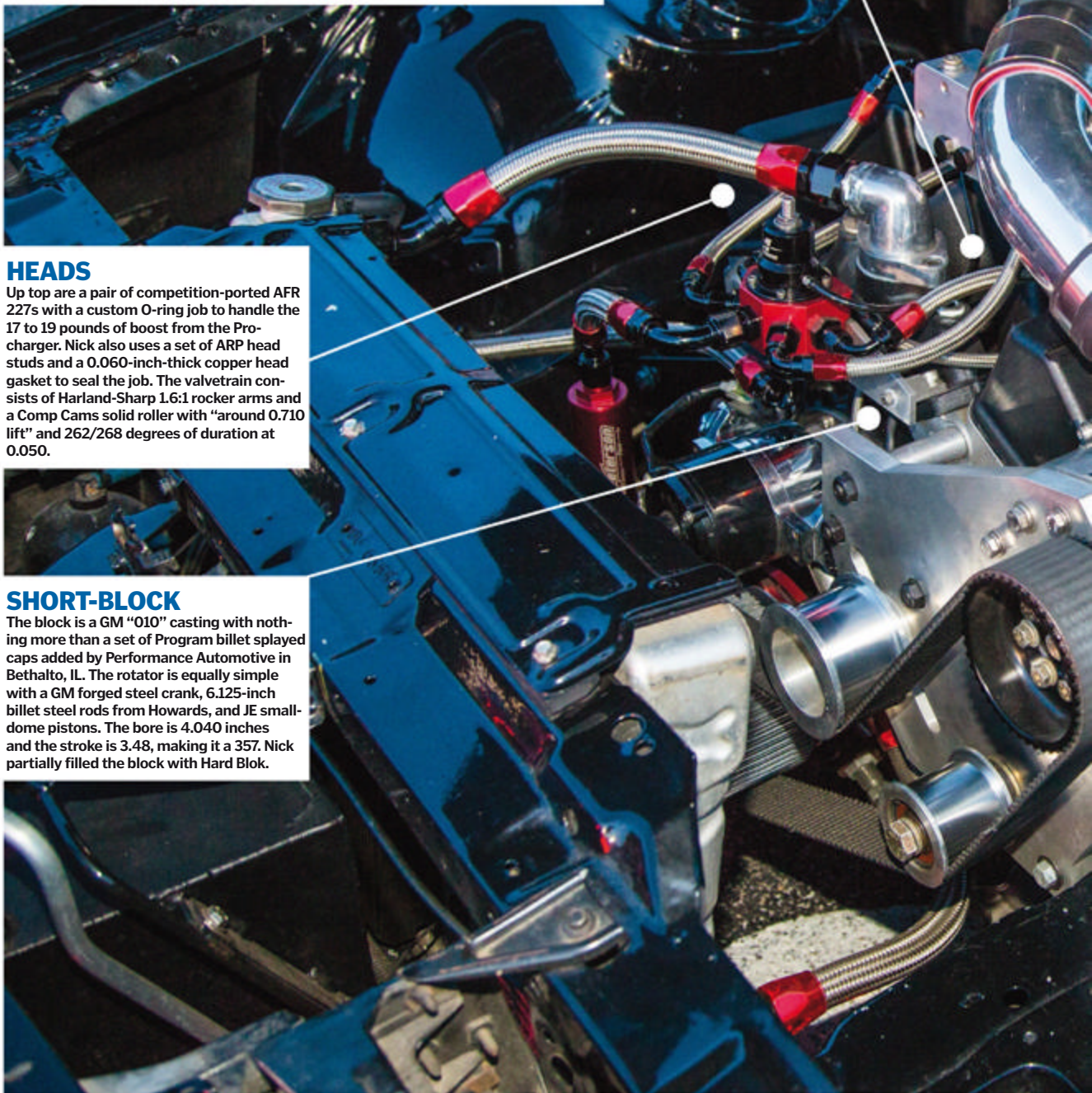
Nick Droit / Wood River, IL

We met Nick at the inaugural Midnight Drags held at I-57 Dragstrip in Benton, IL, in 2013. His black 1992 Camaro Z28 ran in the mid-5s and 130 mph in an eighth-mile with a nice, long wheelstand. This performance is especially noteworthy considering the car's 3,240-pound curb weight. Aside from the high speed, what grabbed our attention was the boxy fuel bowls with float adjusters everywhere, so we cornered Nick for a closer look.

By Douglas R. Glad / Photo: Wes Allison

### INTAKE

The Edelbrock Super Victor was port-matched to the AFR heads by Nick.



### HEADS

Up top are a pair of competition-ported AFR 227s with a custom O-ring job to handle the 17 to 19 pounds of boost from the Pro-charger. Nick also uses a set of ARP head studs and a 0.060-inch-thick copper head gasket to seal the job. The valvetrain consists of Harland-Sharp 1.6:1 rocker arms and a Comp Cams solid roller with "around 0.710 lift" and 262/268 degrees of duration at 0.050.

### SHORT-BLOCK

The block is a GM "010" casting with nothing more than a set of Program billet splayed caps added by Performance Automotive in Bethalto, IL. The rotator is equally simple with a GM forged steel crank, 6.125-inch billet steel rods from Howards, and JE small-dome pistons. The bore is 4.040 inches and the stroke is 3.48, making it a 357. Nick partially filled the block with Hard Blok.





## THE CARBURETOR

There is no intercooler, so the engine relies on E98 ethanol to keep the intake charge cool. Using a base-model 850-cfm carb from Quick Fuel, Tim Gehers designed the carburetor's unique float bowls to Nick's specifications and Nick machined them from billet aluminum. The dual needle and seats were needed to provide enough inlet area to support more than 1,000 boosted horsepower. Feeding this is a Bo Laws belt-driven fuel pump and Aeromotive 13202 regulator.

## IGNITION

The MSD Pro Billet distributor is fired using a crank trigger and an MSD Digital 6 box. A Power Grid controls the rest of the car.

## SUPERCHARGER

The Procharger is an F1R with a 50mm cog drive and custom brackets that were made by Nick. It is rated for 1,400 hp. The combination of a 64-tooth crank pulley and a 44-tooth head pulley keeps the supercharger turning well under its redline. The static compression ratio of the engine is 10.7:1.

**"It revs to 7,800 on a pretty regular basis. It's been revved to 9,500 a couple of times on the data logger. Things happen."**  
—Nick Droit



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**How much:** No pricing as of press time.

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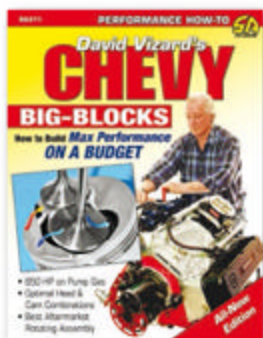
## BULLITT CYLINDER HEADS FOR BIG-BLOCK FORD

**What it is:** New heads from Air Flow Research.

**Why you care:** There's a lot of power lurking within Ford's 385-series big-block engines. The blocks are strong, and the bottom end can swallow a big-stroke crankshaft. There are a few good cylinder heads on the market, but AFR is ratcheting up the performance potential with these new, clean-sheet design castings. Three different intake runners are available—270, 285, and 300 cc—and you have the choice of a 75- or 88cc combustion chamber. Flow-bench testing indicates a stellar 420-plus-cfm rating on the intake side, so build the biggest engine possible and get ready to be pinned to the driver seat the first time you mat the gas.

**How much:** \$5,500 for the pair

**Learn more:** Air Flow Research; 661/257-8124; AirFlowResearch.com



## KEEP LEARNING!

**What it is:** David Vizard's "Chevy Big-Blocks On a Budget," the revised edition from CarTech Books.

**Why you care:** We never want to stop learning, and neither should you. We used David Vizard's original version of this book when planning the build of our Blue Collar 454, and the information was invaluable. Vizard has revised the copy to reflect new products and innovations in the aftermarket, so it would be a worthy purchase, even if you have the old book.

**How much:** \$26.95

**Learn more:** CarTech Books; 800/551-4754; CarTechBooks.com



## NEW ENGINE HARNESS FOR COYOTE AND MODULAR FORDS

**What it is:** A stand-alone wiring harness for overhead-cam Fords.

**Why you care:** It's about time someone has done this! Holley just introduced its new plug-and-play, engine-wiring harnesses for Mod Motors and the Coyote V8. They've pretty much covered the field with a variety of part numbers designed to work with SOHC and DOHC Modular engines, and the range of coil and injector designs used throughout the range. Pair the harness up with one of Holley's EFI ECMs and you'll have tunable control over your engine. If you choose Holley's Dominator ECM, you'll also be able to control a 4R70W transmission and utilize the stock drive-by-wire throttle.

**How much:** The harnesses sell for about \$430. Complete kits with Holley's HP ECM cost around \$1,800.

**Learn more:** Holley; 270/782-2900; Holley.com





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# NEW TIRE TECHNOLOGY FROM MICKEY THOMPSON

By Douglas R. Glad / Photos: Courtesy of Mickey Thompson

→ The beloved ET Street, the ET Street Radial, and the ET Street Radial II are going to be replaced by two new tires in 2015, according to Ken Warner, vice president of marketing at Mickey Thompson Performance Tires & Wheels (M/T).

The ET Street had been the staple of street/strip car guys since 1996 when M/T introduced the M5 compound bias-ply tire for DOT drag-racing classes. The tire used ET Drag construction technology, had a DOT stamp on the sidewall, and tread for the street.

The ET Street Radial entered the market in 2004 using the R2 compound for use in radial DOT classes in the NMCA, NMRA, and PSCA. The tire also represented an evolution as the

company looked for a tire with better street manners than its bias-ply predecessor and could keep up with the larger-diameter, radial-tire trend.

When the ET Street Radial II was introduced in 2007, the idea was to provide a sticky radial tire with more tread void for the street and more sizes to meet the needs of cars with larger rim diameters.

These three classics will be replaced with the ET Street R and ET Street S/S.

The ET Street R (yes, R is for race) is the evolution of the original bias-ply ET Street for the guy who wanted the closest thing to a drag slick he could get and still be DOT approved. The R is available in both radial and bias-ply designs. Fast-street-car guys with an

automatic transmission and rim sizes from 15 to 18 inches in diameter should look at the R2 compound radial tire for something sticky that can also be used on the street. The ET Street R bias sizes are for clutch cars that need the power-absorbing sidewall construction during 6,000-rpm clutch dumps on the starting line and Pro Street guys who need a tire as close as you can get to an ET Drag and still have a DOT stamp on the sidewall. The ET Street R comes in three different compounds: R2 on the radials, M5 on the bias 15-inch-diameter tires, and X5 on the giant 34x18.50-16s for extreme classes! The ET Street R is not a steel-belted radial, it's a race tire you can use on the street.



Photo: John McGann



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### ET STREET R BIAS-PLY

There are five bias-ply ET Street R sizes. The smallest is a 26x10.5-15LT and the largest is a massive 34x18.50-16LT for the Pro Street guys.



### ET STREET R RADIAL

The ET Street R radial is available in P255/50R15 all the way to P305/45R18. Use it for a fast automatic car. Like 8-second fast.



The ET Street S/S (street/strip) is for the guy who wants a street tire he can take to the racetrack. The S/S is a steel-belted radial that will fit 15- to 18-inch rim sizes. It still uses the R2 compound so it will be sticky and hook, but the stiffer carcass and improved tread pattern will handle better on the street.

These two new tires should cover the street/strip muscle-car and late-model guys who need racetrack grip. Mickey Thompson also offers the Street Comp for street-only muscle cars and the ET Drag slick for small- and big-tire, all-out, non-DOT racing. For small-tire radial racers, M/T also offers a 10.5 Pro Drag Radial and 10.5 Pro Bracket radial slick. **END**





### **ET STREET S/S**

The S/S stands for Street/Strip and is steel belted for more street stability. If you have a new ponycar with 18s or 20s, this is the tire to use.



### **PRO DRAG RADIAL**

M/T also has a Pro Drag Radial for the track. It's for 10.5 radial racing.



### **PRO BRACKET RADIAL**

The Pro Bracket Radial is a tubeless tire for the weekend bracket racer. It is designed for fast starts, low rolling resistance, and zero growth for consistent e.t.'s.



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# STARTER 101

## Because There's More to a Starter Than You Realize

By John Kiewicz / Photos: John Kiewicz

→ **Car Craft** recently built a new Chevy 383 stroker that produces nearly 460 hp. While most everything on the engine was new, the original 1969-spec starter was reused. When the engine is cold, our old starter cranks without issue, but when the engine is hot, the starter struggles.

We wanted to install a new/modern-style starter, but weren't sure what attributes were really needed. Available from the aftermarket are a variety of options, including high-torque, gear-reduction, and different varieties of "mini" starters. What would be the

best choice for our 10.5:1 compression ratio 383? We began our quest for knowledge with the experts at Powermaster, a company that offers a wide variety of starter styles from which to choose. We first asked them what factors one should consider when buying a starter, then moved on to discussing problems that can affect starter performance. In addition, we also spoke with American Autowire to learn of wiring issues that can affect starter operation.

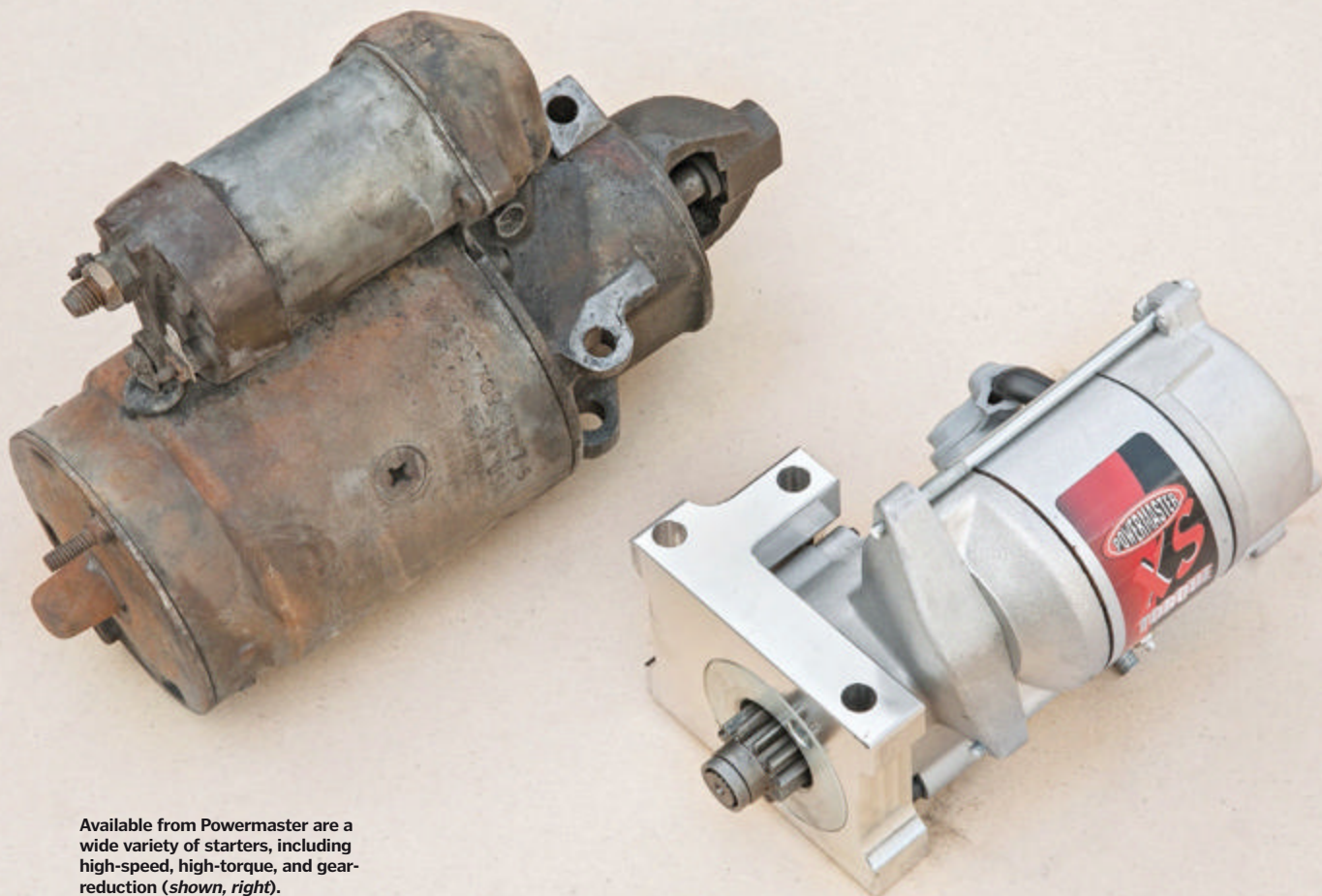
Read the two Q&A sections and then follow along as **Car Craft** highlights aspects of the installation of a new Powermaster XS Torque starter.

After installation, our new starter effortlessly cranked over the 383, whether the engine was cold or hot. Plus, the starter delivers a unique sound during operation that makes us smile each time the engine is fired up.

### Q&A WITH POWERMASTER PERFORMANCE

**Car Craft:** When choosing a new starter, at what point should you consider gear reduction?

**Powermaster:** There are two huge benefits to running a gear-reduction



Available from Powermaster are a wide variety of starters, including high-speed, high-torque, and gear-reduction (shown, right).





**Car Craft's new 383 stroker made use of a stock GM starter. When the engine was cold, the starter would fire the engine right up. However, when the engine was hot, the starter struggled to turn over the engine.**

starter. The first benefit is that it can provide more torque for an engine with high compression, significant initial timing, or just any hard-to-start engine. The second benefit is the overall size of a gear-reduction starter. Tight header clearance, kick-out oil pans, or engine swaps where there just isn't any space can sometimes make a smaller-size gear-reduction starter necessary.

**CC:** When choosing a new starter, at what point should you consider added torque/kilowatt (kw) output?

**PM:** Kilowatt rating is how all electric motors are measured. The higher the kw output, the more power the motor has. That doesn't always mean that the higher the kilowatt rating, the more powerful the starter is since gear reduction is going to manipulate the end result. For instance, Powermaster's UltraTorque High Speed starter is designed for alcohol engines or engines running magnetos that need faster cranking. It has a 2.2kw rating and 3.0 hp, but is only recommend for engines with up to 15:1 compression. By comparison, the Powermaster XS Torque uses a 1.4kw, 1.8hp motor...but can crank engines with up to 18:1 compression. The different gear ratios (3.75:1 for the High Speed and 4.4:1 for the XS Torque) manipulate the power produced through the drive gear.

**CC:** When choosing a new starter, most people focus on the engine's compression ratio. Are there other important factors to consider?



**The stock GM starter is bulky and comes dangerously close to touching the headers. As a result, excessive heat build-up within the steel case often generates heat-soak conditions that cause the starter to offer little cranking ability when hot.**

**PM:** If an engine has a lot of initial ignition advance, it can make it hard for a starter to crank over an engine. With some racing engines, a timing-retard device is used during start-up. In some cases, engines with an aggressive camshaft make use of valvesprings with very high spring pressure. Such valvesprings can make it more difficult to start an engine, so a high-torque starter will be of benefit.

**CC:** With most 1960s/1970s starters fitted to Chevrolet muscle cars, what was the gear ratio used?

**PM:** Chevrolet used a starter with a

1:1 ratio. Chrysler was the first to use a gear-reduction starter as early as 1962. It's rumored that the gear-reduction concept was derived in the late-1940s.

**CC:** What was the approximate torque/kw output?

**PM:** GM built a 1.2kw direct-drive starter. Powermaster builds a new, OEM-style direct-drive starter with a high-torque, 1.4kw motor. Parts-store-sourced remanufactured starters can come with motors as low as 1 kw.

**CC:** Is there a difference between the amp draw of a starter when spinning



freely versus actually cranking over an engine?

**PM:** On a workbench, a starter will draw 80 to 90 amps. However, during actual start-up of an engine, a starter will draw 250 to 350 amps.

**CC:** With an OEM starter, when it gets hot, it often loses much of its cranking power. What is the reason for this?

**PM:** A major downside to many factory starters is a heat-soak issue. For GM, they are direct-drive-type motors and they generate heat soak that drives the current demand up and pushes the efficiency down. By design, a gear-reduction starter is more efficient, so it requires less current draw, which causes less heat and you get more cranking power.

**CC:** Are there other items to consider that affect how well a starter operates?

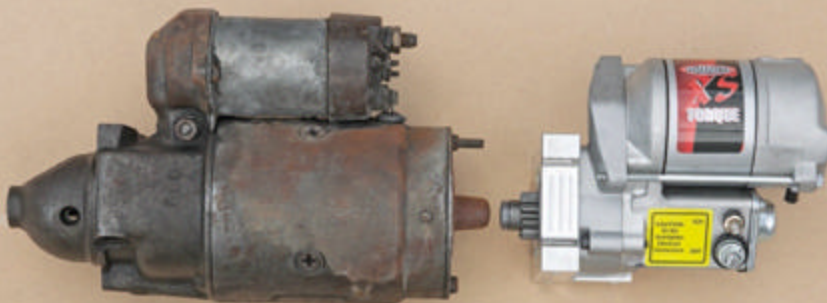
**PM:** A starter, or any electrical item for that matter, is only as good as the power it receives. We see customers upgrading a starter to remedy problems that are actually caused by the wiring.

**CC:** What are the major differences between your Mastertorque and XS Torque starters?

**PM:** The basic design of the Mastertorque and XS Torque starters is the same. They're based on the popular Nippon Denso starters and use an all-aluminum body for lighter weight and to help resist heat soak. The aluminum-encased solenoid and starter motor allow heat to easily dissipate from the solenoid contacts and armature. Where the two starters differ is in the gear-reduction ratio. The Mastertorque starter uses a 3.25:1 ratio, while the XS Torque starter uses a 4.4:1 ratio that gives it more overall cranking torque. Both starters use Powermaster's unique Inficlock system that allows the starter to be rotated 360 degrees to clear most any obstacle.

**CC:** A gear-reduction starter turns the flywheel slower. However, with the extra torque/kw, does it speed up cranking of the engine so that it is similar in speed to a normal non-gear-reduction starter?

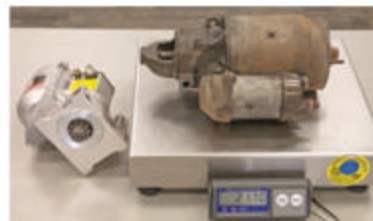
**PM:** Oftentimes the cranking speed difference is either nonexistent or not noticeable at all. Since a high-torque starter is working so much easier to turn over the engine, it can seem as though the cranking speed is actually faster, and in some cases, it is. Powermaster offers different gear ratios to generate either more cranking torque or faster cranking for engines that are particularly difficult to start.



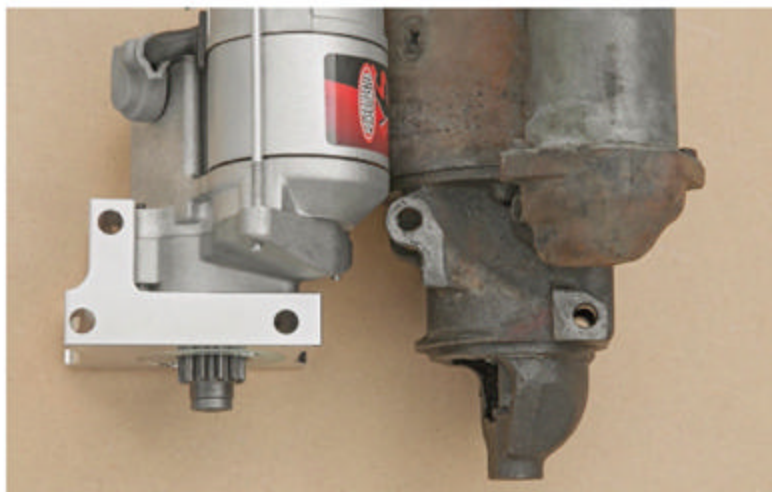
In a side-by-side comparison, it is easy to see how much more compact the Powermaster starter is versus a stock GM starter.



From another angle, you can see how much smaller the Powermaster starter is. This will not only provide added clearance but also save weight.



When comparing the weight of our stock GM starter compared to a Powermaster XS Torque starter, the difference is clear. The stock starter weighs in at a hefty 21.70 pounds, while the Powermaster starter weighs just 8.85 pounds. That is a 40.8 percent weight reduction.



The Powermaster starter drive-gear assembly is not only more compact than that used on a stock starter but also features a straight- and staggered-bolt mounting system, which allows it to fit a wider variety of engines.



The Powermaster starter makes use of a more compact solenoid assembly with connection terminals that are much easier to access than those used on an OEM starter.



On a stock GM starter, the solenoid terminals are small and difficult to access. Usually located at the 12-o'clock position, the terminals are especially hard to reach when using aftermarket exhaust headers.



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With the new Powermaster XS Torque starter bolted into place, there is radically more clearance to nearby items, including the heat-radiating aftermarket exhaust headers.

## Q&A WITH AMERICAN AUTOWIRE

**Car Craft:** What are the most common issues that affect the power wire(s) used to feed a starter?

**American Autowire:** Undersized cables are the most common issue that we receive phone calls on. Not only is the positive cable undersized but the negative cable is as well. With an undersized cable, the proper amount of current will not be transferred to the starter. Another issue is heat. Many vehicles are running an aftermarket exhaust system that radiates more heat onto the starter wires. Over time, increased heat will greatly degrade the starter cable that will directly affect the performance of the cable...especially during hot start-up.

**CC:** With regards to the starter system, how important is the ground cable in the overall mix?

**AA:** A poor ground can lead to many problems. For example, a bad ground can cause the vehicle to incorrectly ground through the easiest path that it can find...such as through the shifter cable. A general rule is to use a ground cable that is the same size as the positive cable. In addition, the ground cable should be mounted to a clean surface that does not have any rust, paint, or oil build-up.

**CC:** Are there common wiring issues when using an aftermarket starter?

**AA:** If your vehicle still uses an original-style points ignition system, an aftermarket high-torque starter may cause issues. The "R" terminal on a stock starter provides a 12-volt power shot to the coil when the ignition switch is turned to the start position. Many aftermarket starters eliminate the use of an R terminal that leaves no place to connect the original wire. If you simply piggyback the original R and S wires, it

will cause the starter to cycle while the engine is running, which will cause serious damage to the flywheel and/or starter. At American Autowire, we created a solution that allows you to connect the R wire to the "S" terminal on the starter solenoid so that the coil will not lose the 12 volts of power delivered when cranking over the engine. Thus, order American Autowire's harness (PN 500997) to eliminate the R wire problem.

**CC:** Are the battery cables that American Autowire offers of better quality than the cables originally used in the 1960s/1970s?

**AA:** For 1955–1960 top-post battery cables, we manufacture the cables exactly to GM's OEM specifications. The cables have PVC protective insulation just as used with the original cables. Between 1961 and 1969, GM changed the battery-cable production to be a spring-ring-type battery cable. Although the American Autowire cables look the same, we have made improvements to some of the battery-cable specifications. For example, if GM sized a spring-ring battery cable at 6 gauge, we manufacture the battery cable using larger 4-gauge cable. Another improvement is if the battery cable employs a secondary lead wire, then this wire has been upgraded to a GXL cross-linked wire that provides better current flow along with higher temperature resistance. During 1969, on some vehicles, GM offered a factory option for the next-generation (HD) battery that consisted of a side-post-style battery. For this battery, 6-gauge wire was used. Again, American Autowire upgrades to a 4-gauge wire along with GXL cross-linked wire that provides better current flow along with



American Autowire's starter wires not only feature better quality copper wire and are larger gauge but also feature solder-dipped ends that generate better current transfer—and significantly improved corrosion resistance.



While an aftermarket starter offers great advantages over OEM, if the power supply isn't adequate, then problems will still exist. Thus, we upgraded to new power and ground wires from American Autowire. The wires are larger gauge and are constructed of higher-quality copper wire to better transfer electrical current.

higher temperature resistance.

**CC:** How do American Autowire battery cables compare to cables commonly found at auto-parts stores?

**AA:** Many auto-parts stores offer lower-quality cables that are not built to the original factory specifications. One example of this is the factory spring-ring ends fitted to certain 1969-and-later GM models. In addition, most parts-store cables are offered in universal lengths fitted with universal lug ends. The battery cables offered by American Autowire are built to the original service specs using OEM-spec tooling. In addition, compared to OEM cables, most of our cables use thicker stranded wires that are constructed of a higher-quality copper. Plus, many of our battery cables have the ends dipped in solder for better current transfer and improved corrosion resistance. **END**

## →SOURCES

**American Autowire;** 800/482-9473; AmericanAutowire.com  
**Powermaster Performance;** 630/957-4019; PowermasterMotorsports.com



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# ASK ANYTHING



In between a Lincoln V12 (similar to Ford Flathead V8) lifter and Ford 302 lifter on the right, the Y-block's unique mushroom-type tappet is revealed. The small-diameter lifter boss slips into equally small bores machined in the Y-block. Once the cam slides in, the lifters are trapped and cannot be removed. This architecture explains why all Y-block engines have adjustable rocker arms. Hydraulic lifter componentry (plungers, springs, check balls, and so on) simply won't fit within the oddball lifters. The Y-block has a devoted fan base, but its lack of serious naturally aspirated power potential is not disputed. Passenger-car production ended after 1962.

## CRANK OR CAM, WHICH GOES IN FIRST?

**Dave Shepherd; via CarCraft@carcraft.com:** Why do almost all engine-building articles, including some TV shows, show the cam being installed with the crank in place. I have built racing and stock engines for many years and always put the cam in first to facilitate guiding it through the bearings. Thanks—Dave Shepherd, former NHRA record holder, 1964 Plymouth Belvedere Max Wedge.

**Steve Magnante:** You pose an interesting question. As an automotive journalist and hot rodder, I have observed, performed, and been directly involved with about 100 cam-in-block inline-four and -six, V4 (early Saab/Ford Taunus), V6, V8, and V10 (Viper) engine builds in my career. I have only witnessed one instance where the crank was installed after the cam. I'll get to that in a second. I'm guessing the majority of engine builders have a subconscious tendency to want to empty the workbench of the largest items first, then work their way down to the smaller bits (in the mechanically correct sequence, of course). So it's in with the crank before all else, since it's the largest item. Let's also remember that most engine assemblies begin with the bare block positioned upside-down on the engine stand. Once the rotating assembly is in place, that's when most guys flip it over (crankcase down) to address the cam and top-end assembly. Another reason is cleanliness. A cam smothered in moly assembly lube, STP, and so on is a messy thing that loves to attract small debris, while simultaneously dripping and smearing lube on anything that makes contact. It also looks ill-defined and out of place in photographs and

on video, where everything else is surgically clean. Also, there might be a subliminal neurosis that the cam could come loose during all of the flipping and rotating of the engine on the stand during assembly. Those are my guesses. Back to that singular instance where the cam went in first: the engine was a Ford 292, a so-called Y-block. First introduced in 1954 at 239 ci (but soon to grow to 256, 272, 292, and eventually 312 ci) the Y-block was Ford's first "modern" OHV V8 engine of the post-WWII era. It was a major step forward compared to the mouth-breathing 1932-1953 flathead, but its use of mushroom-type valve lifters *absolutely mandates* their installation before the crank meets the block. In fact, the lifters must go in before the cam, which traps them. There is simply no other way to install stock Ford Y-block lifters. Naturally, this makes in-car cam swaps an impossibility for 1955-1957 T-bird performance enthusiasts as well as owners of other Y-block-powered Ford and Mercury cars and trucks. Getting back to your practice of installing the cam before the crank, could it be an outgrowth of your NHRA Stock Class racing experience? You guys have to exploit the rule book and often run razor's-edge combinations that require extra scrutiny. Maybe that's where you became conditioned to the cam-first technique? I'm guessing you spent a lot of time making sure those Max Wedge camshafts began turning if an ant walked onto the lobe. But, yes, I can see the benefit of being able to observe cam installation to assure against bearing and lobe damage. I'll try your technique on my next engine build—as long as it isn't a Ford Y-block.

## 351 CLEVELAND OILING SYSTEM CONCERNS

**Ray Busuttli; via CarCraft@carcraft.com:** I have read so many articles on fixing oiling problems on the Cleveland motor, and I am confused! Some articles install lifter bushings on just the right-side gallery. Some say install them on both sides. Some articles say use oil restrictors in the cam-bearing galleries. Some say use a 100-psi oil-pump spring, some say don't. Some run an external oil line from front to back. I give up! My car is a 1985 Mustang with a 377-cid Cleveland. It's got Chevy rods, Wiseco pistons, Weiland tunnel ram with two 750-cfm carbs, stock closed-chamber heads that are filled, a 4.30 spool, an MSD, and so on. Last September I broke the crank in four places at 7,800 rpm and took out the last two mains. It was a stock crank. The car ran a best of 9.76 at 140. Please help!

**Steve Magnante:** You didn't tell us how long your engine combo lasted, but 7,800 rpm from a stock 351C crank is nothing to sneeze at. Let's remember, with the exception of the forged steel 1969/1970 Boss 302 crank, all 221-302 Windsors, 351 Windors, 351 Cleveland (that's you, Ray), 351M, and 400M engines were factory delivered with cast-iron cranks of marginal strength in high-rpm builds like yours. That it broke into three chunks sounds more like a harmonics/balance issue than an oiling-system flaw. If the main bearings weren't blue and spun, I'd say the crank gave up the ghost due to an imbalance that became critical at your peak engine speed. You are correct about the 351C benefitting from oil mods. The stock circuit feeds the



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## ASK ANYTHING



The 1971 edition of the "Petersen Complete Book of Engines" reveals this shot of how Los Angeles-based engine builder Marvin MacAfee whipped up a main oil-line connection hose on his 8,000-rpm SCCA Formula A-bound Boss 302 mill. The 351 Cleveland is similar.

cam first, then the mains, resulting in starved No. 4 and No. 5 main and rod bearings at sustained, high-rpm use (above 4,500 rpm). As you infer, the time-honored solution is to run an external line from the oil-pressure-gauge sending unit fitting rearward to the oil-gallery plug situated at the top of the block (on the flat section between the back of the intake manifold and bellhousing mating surface). Bushed lifter bores certainly are effective at boosting oil presence at the mains, but they mandate the use of solid lifters, which I'm sure your 7,000-plus-rpm mill was running. Going further, some Cleveland builders add an external line to the back of the block that connects the rearward end of the driver-side oil gallery to the camshaft-feed gallery. An outgrowth of the original SCCA Boss 302 factory race effort, this (outwardly invisible) modification involves about 10 inches of flexible, braided hose and some AN fittings and tucks between the back of the block and the spinning flexplate/flywheel (see photo). This approach splits the main oil line. Now, pressurized oil feeds the mains from both ends, effectively ending diminished supply at the No. 4 and No. 5 journals.

Another cause of oil starvation is poor drain back. The stock Ford small-block has four drain holes cast into the center of the lifter valley. With a high-volume pump and inadequate oil-pan capacity, it is very possible to suck the oil pan nearly dry with prolonged, full-throttle use. Careful scrutiny

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of the bare block will reveal three more locations where you can drill 1/2-inch holes for extra drainage. Naturally, all edges should be chamfered for optimum flow. And speaking of oil pressure, the scheme of running 50-weight oil and a 100-psi pump is obsolete. Thick oil drains slowly, the oil-pump driveshaft gets a workout, and the power needed to circulate heavy oil saps more energy than most folks realize. The days of the "10-psi-per-1,000-rpm" motto are over. Thanks to synthetic oil, advances in bearing material, the advent of anti-friction coatings, and improved oil systems, some racers are turning 9,000 rpm with a mere 40 psi! Naturally, the entire engine must be set up with the proper bearing and wall clearances, and ring material and precision machine work is vital. Part of the modern, low-viscosity strategy is the freedom to run tighter bearing clearances. Because the thinner oil flows more freely, 0.003-inch clearances can be cut down to 0.002 inch, which delivers higher average and low-rpm oil pressure. I applaud your use of budget-oriented parts—like the nodular iron crank, but its eventual failure reveals the stark fact the part doesn't last as long as it does when higher-quality parts are mixed in from the start. The 351 Cleveland may have only been in production for four brief years (1970–1974), but its high-flow, canted valve heads are still a valid horsepower maker—as your 9.76/140-mph timeslip proves.

## MECHANICAL MARVEL

**How the Odd Couple Top Gas Dragster married a blown whale and a blown mouse with a bracelet!**

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## ASK ANYTHING



Is the Chrysler pushing the Chevy or is the Chevy pulling the Chrysler? Perfect alignment of the engine mounts was car-builder Ken Theis' top priority, behind that was keeping them both happy and in tune. Any hiccup or stumble was immediately felt by the partner engine.

rose up as an alternative to Top Fuel and was an active class through 1972 when it was merged into Competition Eliminator, a glorified bracket race with handicap starts. But during its prime, the NHRA rule book didn't restrict how many engines could be used in the same Top Gas car. Though John Peters' twin-Chevy-powered Freight Train is the most famous and successful, more than a dozen race teams built 16-cylinder dragsters for Top Gas battle. Of them, Ken Theis' Odd Couple was the most outrageous for its pairing of a Chevy small-block and an early Chrysler Hemi in the same lanky chassis. Think about it—car driver Walt Stevens' right foot simultaneously controlled a 600hp, 398ci Chevy mouse *and* an 800hp, 466ci whale, both engines running at the exact same 8,500 rpm through the traps. They'd better be, or you've got big problems. Synchronized throttle action was provided by a single-pedal Hydra-Link hydraulic linkage unit, while a simple "bracelet" made from a foot-long section of double-row timing chain firmly coupled to a pair of 6-inch-diameter steel sprockets—one on the snout of the Chrysler crank, the other on the tail of the Chevy crank. A simple master link allowed removal of the chain and full separation of the engines for service. The Chevy wasn't equipped with a flywheel, though a beefy, 50-pound, solid-steel flywheel bolted to the back of the Chrysler crank fed the combined 1,400 hp to a custom Shiefer multi-disc, double-floater clutch, and Mopar



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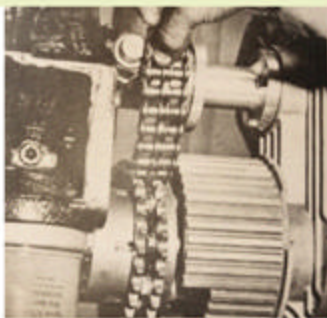
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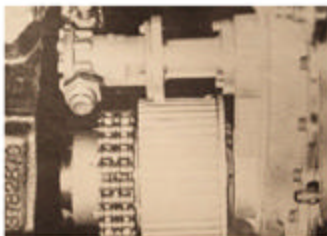

CC7





Here, This holds the simple double-row chain to show off the twin sprockets. The notch taken from the Chrysler's bottom blower-belt pulley was added to ease master-link installation and removal.

8<sup>3</sup>/<sub>4</sub> rear axle with a Detroit Locker and 4.56 cogs. The Odd Couple was a frequent sight at Bakersfield and Pomona in the 1969-1971 period where it eliminated all Top Gas competition at the 1971 NHRA Winternationals with a 7.58/198.28-mph pass and ran 7.61/193.96 at The Smokers meet in Bakersfield. OK, who's gonna be first with a modern-day interpretation of the Odd Couple concept for the street? Let's stuff a ZR1 Corvette/Hellcat Hemi mashup in the snout/front seat of McGann's Cutlass!



With the master link in place, both engines are coupled "till death do us part." By all accounts, the Odd Couple was a fierce competitor on the Top Gas circuit. Remember that all-iron Chrysler "whale" weighed close to 1,000 pounds—a half-ton—decked out with its Bowers 6-71 supercharger. The smaller Chevy tipped the scales at a more reasonable 580 pounds, also with a Bowers-prepped 6-71 huffer. These were the days before the ready availability of aluminum blocks and heads.

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# THIS GUY'S GARAGE

## PACIFIC FABRICATION / Gilroy, CA

Pacific Fabrication began as an endeavor that owner Kevin Stearns started working out of his home garage. Gaining a reputation for quality custom work, he started the official business more than 10 years ago in a 3,500-sq-ft shop in Morgan Hill, California, a small town about an hour south of San Francisco, specializing in metal fab, custom-built sandrails and off-road trucks, muscle-car restorations, and LS engine swaps. Until about a year ago, Kevin's business has grown exclusively by word of mouth from happy customers, enough to necessitate hiring a staff and moving the business into a 10,000-sq-ft building in nearby Gilroy, California. In the current location, business is booming. In addition to building cars and trucks, PacFab also manufactures parts and components for facilitating LS engine swaps under the name of Tilden Motorsports. These parts include custom-built wiring harnesses, drop-in cooling modules (a TIG-welded aluminum radiator, fans, and a shroud), sheetmetal oil pans and transmission pans with skidplates, fuel systems, and low-mileage, take-out LS engines sold complete and ready to drop into the restomod of your choice. The prices are great too. We decided to take the trip up north to see the operation for ourselves. Check them out at [PacificFabrication.com](http://PacificFabrication.com).

By John McGann / Photo: John McGann

This 1966 Mustang is in for general maintenance work. PacFab employee Walter Weightman told us they offer this service because it keeps owners of performance cars from having to rely on general repair shops for maintenance that may not be familiar with aftermarket parts on older cars.



The 1971 Chevy C10 cab belongs to a customer who found his dad's old pickup on Craigslist. It's in for a complete restoration.

The 1969 Camaro convertible is a car the owner brought to PacFab to fix some poorly done work by another shop. "The only remaining parts of the original car are the quarter-panels and the rear seatback frame," Kevin told us. They found acres of bondo, chicken wire, and nasty welds everywhere else, all of which was cut out and replaced. Cool restomod parts include a full Speedtech suspension, an LS2/T56 drivetrain, and "big-ass" Rushforth wheels.



Impossible to miss in bright yellow, the 1957 Bel Air has been in the same family since it was purchased. The grandson of the original owner wants to update and modernize the car to make it safer and easier to drive with things like better brakes, fuel injection, and an overdrive transmission. This car is going to be killer, too, with a big set of Baer discs, CPP control arms, an LS1, 4L60E, and Tilden Motorsports' custom gas tank and fuel system, and ready-to-run engine and wiring harness.

A pair of Camaros is hidden under the lift. The red 1967 RS belongs to a guy who intended to do a complete engine swap himself, but gave up when he got to the wiring and fuel systems. We understand and sympathize. "The wiring and fuel systems are the two most complicated systems in a modern car," Walter explained. There's no shame in having pros handle that work, thus preventing potential electrical gremlins that may be impossible to find later. The burgundy 1969 Camaro was brought to PacFab to have minitubs and a Detroit-Speed rear-coilover suspension installed.

This 1957 Chevy was recently dropped off for a ready-to-run engine package, cooling module, and full fuel system. The custom core support and engine crossmember and motor mounts have already been installed.

Just back from the body shop, this 1968 Camaro sports a striking silver paint job. It rides on Speedtech's coilover front and torque-arm rear suspension. A custom roll-cage is next, then an LS2/T56 combination will be slid into place, supported by Tilden Motorsports' gas tank and fuel plumbing kit, cooling module radiator assembly, and a custom wiring harness.





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# ZEDSLED: THE SUSPENSION EDITION

## How to Rebuild the Front Suspension of a Second-Gen Camaro

By Kevin Tetz / Photos: Kevin Tetz


➔ **Car Craft's ZedSled 1978 Z28** Camaro was in extremely rough condition, which was why we were able to buy it so cheaply: \$1,300 and we drove it onto the trailer to get it home. Not bad! So far we've spent \$750 on sheetmetal, \$1,400 on the Junkyard LS engine and cam upgrades, \$240 on some DSE chassis improvements, and roughly \$110 on some Eastwood coatings to prevent rust on the original sheetmetal. At this stage, we're into this tub for a little less than \$4,000. By the time it's all done, hopefully, we won't be upside-down and will have a great car to beat on. Truthfully, ZedSled should have been a parts car, but it was all there, it

was a true Z, and it is solid enough to bring it into this century with some performance upgrades.

Now that it's rust-free, we can pay some much-needed attention to the chassis. Plans for power include a salvage-yard, iron-block 6.0 LQ4 out of a wrecked truck, backed by a used 4L80E automatic transmission. With the potential of 500 naturally aspirated horsepower easily in reach, the rest of the car had to be brought up to the new level of performance. Classic Performance Products offers very well-designed systems for many different vehicle platforms, but we're particularly excited about the company's Stage III Pro Touring kit for second-gen F-body

Camaros.

Everything on ZedSled is worn out, and let's face it, technology has left 1978 in the rearview mirror, so we're upgrading everything with CPP's Pro Touring system. We decided to add the 500-series close-ratio steering box, along with C-5 Corvette 13-inch brakes up front, 12-inch discs out back, redesigned antiroll bars, and a much-needed lowered ride height (3 inches in front, 2 inches out back) with QA-1 single-adjustable shocks all the way around. Yes, it's bolt-on, but it will make this car hold its own with the cool kids in the Pro Touring world—for a fraction of the money a full custom suspension costs.



This is the front half of CPP's Pro Touring Stage III system, along with the 500-series steering box. We've got the uprights with the C-5 hubs bolted to the lower control arms and the QA1 adjustable coilovers installed to speed up assembly.





This is the stock suspension sitting in the ZedSled graveyard. It is totally worn out in every way. It could be rebuilt, but would cost a lot, especially when you figure in labor, and we wouldn't have tubular arms, a bigger sway bar, urethane bushings, and especially not Corvette brakes.



The stock subframe was smoothed and finished with Eastwood fillers, primers, and Rat Rod Flat clear over black base. We're installing the urethane engine mounts now since access to fasteners is a challenge with the control arms in place.



CPP designed its own spindles to morph the late-model C-5 hubs into the F-body unequal-length, A-arm system. Here we're applying antisieze to the Torrington bearing that sits under the coil spring so it's easier to adjust under load.



With the coil spring seated on the shock adjuster, a ratchet strap works great for compressing the spring enough to thread the top nut onto the shock stud. This will hold the lower arm in place by itself for now.



An acrylic hammer is your friend when attempting to "persuade" bolts into freshly painted parts. CPP uses all Grade 8 hardware for attachments.



We're installing the upper arms without shims for now. The alignment shop will make those adjustments later.

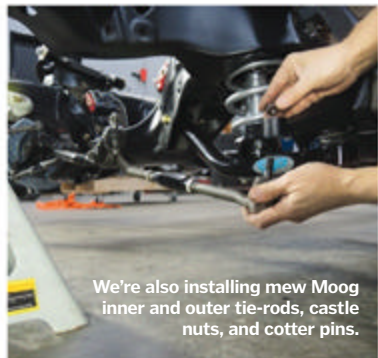


Carefully loosening the strap allows you to adjust the arms enough to get the upright into place when you're working by yourself. Even though it's not much pressure, make sure to use a quality strap that's not frayed anywhere.





Here's the new billet tie-rod adjuster, complete with jamb nuts on either side, which will make alignments much easier.



We're also installing new Moog inner and outer tie-rods, castle nuts, and cotter pins.



Pitman and idler arms are wear items, and both were junk on ZedSled. Yes, we know it's backward; yes, we changed it around after taking this picture.



The colossal 13-inch Corvette rotors slip over the C-5 hubs before the calipers are attached. Note: You'll be switching to an M12 thread size with the new hubs, so make sure you have the correct lug nuts if you're doing this swap.



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The twin-piston Calipers come with thread locker on the bolts. If you are just mocking the parts up prior to final installation, be sure to reapply Loctite on your final assembly.



The 500-series steering box replaces the sloppy stock unit. These have a 14:1 ratio, are made with all-new parts, and utilize the original-style pitman arm, which we're replacing as well.



The center link is the only part from the original steering system we're reusing, because there's really nothing to wear out and it wasn't bent. We blasted it and sprayed on a coat of paint so it matches the rest of the parts.



The antiroll bar (sway bar) is larger diameter than stock and features urethane bushings and anodized billet mounts that are serviceable through a grease fitting.



The endlinks are urethane as well, and the sway bar alone would improve chassis stiffness as a stand-alone upgrade. The mounts install easily into the stock mounting points.



With the trans crossmember supported with a wheel dolly, the loaded subframe gets rolled under the body.



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These are the original body bushings that came out of this pig! Nothing more to say here.



Swapping to DSE's stock-height, solid-body mount kit was a no-brainer. There's no loss in comfort, and we're after rigidity that can't be achieved with rubber isolators.

A cross measurement as well as a reading front to rear is necessary to make sure the subframe is not misaligned. It's critical that you check this, especially if you're welding in subframe connectors. Correcting a dog-tracking problem is a pain with the frame welded in! With the subframe parallel and square, all four body bolts are run in tightly.



The subframe is snugged up, but not totally torqued down until we can verify that it's square on the body.



We had previously mocked up the subframe and installed the DSE frame connectors into the floors—now we can grind the paint off the frame stubs and connector ends for welding.



The end caps are welded in first, followed by the side braces. Magnets are your second set of hands that never get burned.





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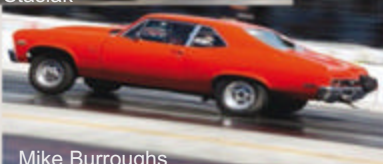


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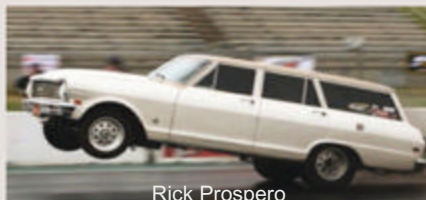
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It may not look like it, but with the smallish nozzle of Eastwood's MIG 175, we have enough clearance above the connector to weld the top seams.

## WHAT'S NEXT?

All that's left to do is make it pretty! We can either go with the bedliner that's on the underside or use Eastwood's Chassis Black to blend into the subframe. Either way will look good, and the improvement in performance is guaranteed to make all the persnickety work worthwhile. We'll address the rear suspension and the peg-leg rear axle soon. We're not getting rid of the 10-bolt, though; there are plenty of guys throwing tons of power at them, so we'll show you how we upgraded ours to hold up to the new LS power and throw on the rest of the Stage III Pro Touring kit from CPP. **END**



The side caps are burned in on each side of both frame connectors. DSE has clear instructions and a cool DVD that shows you how to do this installation on whatever vehicle you have.



Dressing the welds with a 40-grit flap wheel smooths the transition out. Note the location of the screw jacks supporting the front frame stubs, ensuring that the chassis wasn't drooping during the welding process.

## →SOURCES

**Classic Performance Products;** 714/522-2000; [ClassicPerform.com](http://ClassicPerform.com)

**Eastwood;** 800/343 9353; [Eastwood.com](http://Eastwood.com)

**Detroit Speed Inc.;** 704/662.3272; [DetroitSpeed.com](http://DetroitSpeed.com)



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# GPS SPEEDOMETERS AND ELECTRIC GAUGES FOR ANY CAR



→ CC Demon

By Douglas R. Glad / Photos: Douglas R. Glad



Do you even look to see if the speedometer works when you buy an old car? When we shop for something built in the 1960s or 1970s, we assume the speedo needle winged off into the night or the cable is wrapped around the driveshaft. To be honest, we'd given up on factory speedos and learned the

dark art of gear ratios versus rpm math to estimate speed:  $(\text{mph} = \text{rpm} \times \text{tire diameter} / \text{gear ratio} \times 336)$ .

Now, thanks to computer geeks and the military, you don't need to figure out the math, fix your cable, or mess with the speedometer gears, because companies like Speedhut have GPS speedometers that are smaller, lighter,

and faster than anything you can cobble together from a late model in the junkyard. They also have electronic, full-sweep gauges that watch all your critical engine functions in any color or design you can dream up. We caught up with Aaron Westberg from Speedhut and Shannon Hudson from Redline Gauge Works to show us how it works.

Hey, it's the **Car Craft Dodge Demon** on a test pass at Irwindale Raceway in SoCal. We didn't have a good gauge panel in the car, so we used the Dodge as a lab rat for Redline. Its best quarter-mile pass is 9.71 at 138, or about 6.15 at 115 in the eighth on 10 pounds of boost.



→ Flame!

Photo: Mike Morgan



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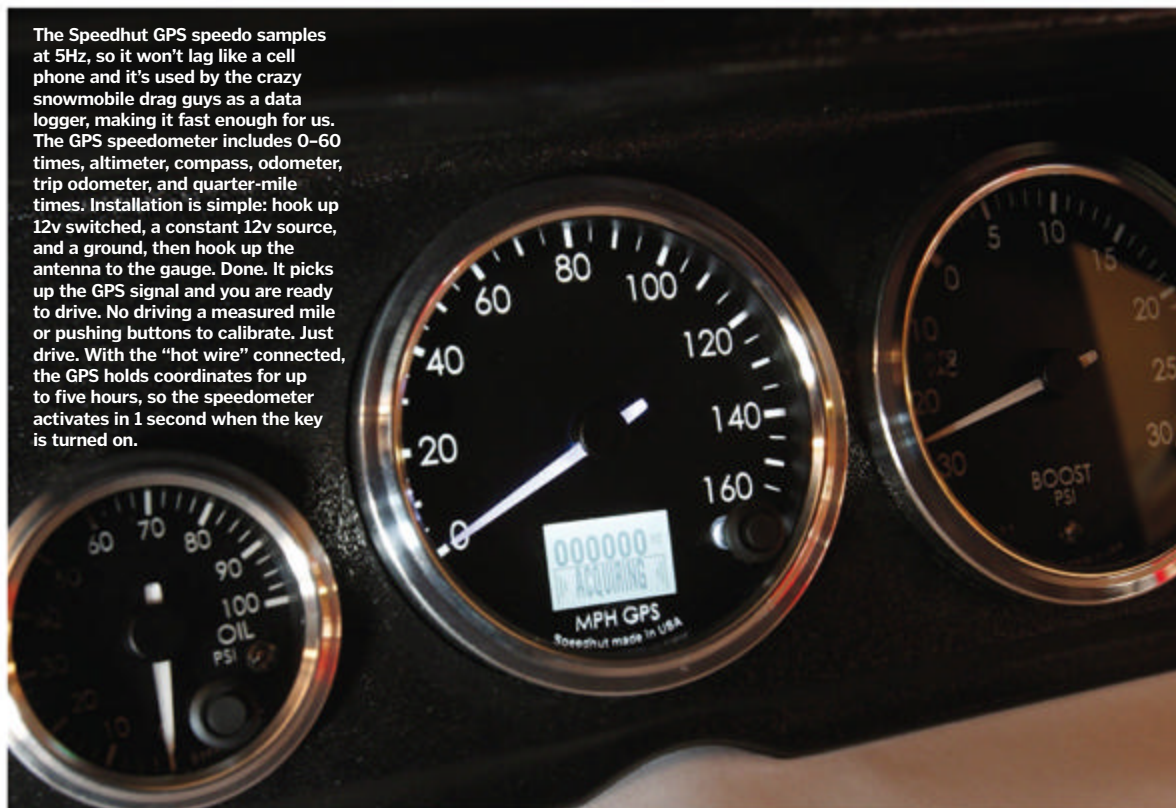
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In 1971, the Dodge Demon and Plymouth Duster were available with either the standard or rallye dash. The standard gauge panel (*shown*) only fits Darts and Dusters without the factory rallye dash option. This and panels with alternate gauge arrangements are available from Redline Gauge Works.

The Speedhut GPS speedometer samples at 5Hz, so it won't lag like a cell phone and it's used by the crazy snowmobile drag guys as a data logger, making it fast enough for us. The GPS speedometer includes 0-60 times, altimeter, compass, odometer, trip odometer, and quarter-mile times. Installation is simple: hook up 12v switched, a constant 12v source, and a ground, then hook up the antenna to the gauge. Done. It picks up the GPS signal and you are ready to drive. No driving a measured mile or pushing buttons to calibrate. Just drive. With the "hot wire" connected, the GPS holds coordinates for up to five hours, so the speedometer activates in 1 second when the key is turned on.



On the left is the Brand X gauge that is both larger and heavier than the Speedhut gauge. The threads around the circumference are for the mounting collar that eliminates the brackets, washers, and tiny nuts we've all dropped behind the dash during installation.

The GPS antenna is waterproof and magnetic, so it can be mounted on the roof of the car or anywhere on the dash where it is exposed to as much sky as possible. The fitting simply threads into the back of the gauge like the one on the back of your cable TV box.







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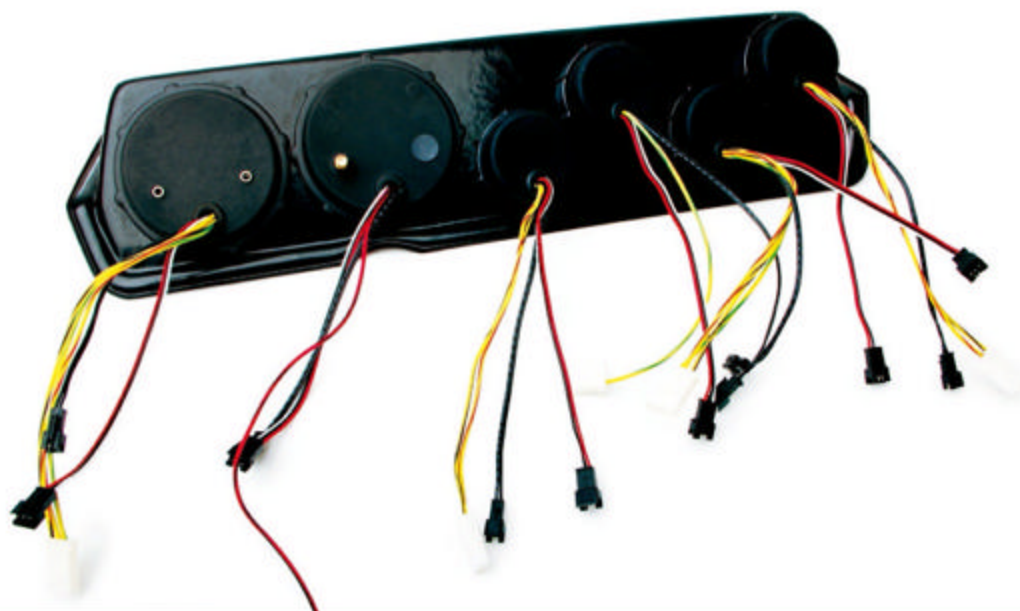




The crown jewel of the Demon goodies is this 3 $\frac{3}{8}$ -inch boost gauge, illustrating what can be done with custom gauge panels. Speedhut offers gauges from 2 $\frac{1}{16}$  to 5 $\frac{1}{2}$  inches, so it is possible to mix and match sizes to get what you want. We asked for a 30-pound range, the larger size, and the look and colors. The LED is for a light that can be set for high and low warning, and day and night brightness.



The boost gauge reads a transducer that needs to see manifold pressure. We mounted ours at the outlet of the compressor housing on the turbo, where it only sees boost.



The wiring is dead-simple. All the connectors can be chained together in no particular order and hooked to both 12v constant and switched power. The yellow wires with white connectors are for the sensors that use standard industry voltage ranges and Packard Metri-Pack connectors. The black connectors with the black, red, and white wires are for lights, constant power, and ground. The hot wire is shown on the back of the GPS speedometer.

The inverter converts DC voltage to AC and uses electroluminescence to light up a thin plate behind the gauge face. This makes the lighting uniform and controllable with a dimmer.





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The water gauge can go up to 3 $\frac{3}{8}$  inches and comes with a  $\frac{1}{8}$  NPT sender (and a  $\frac{3}{8}$  adapter), a lighting inverter, and wiring. The button controls the high/low settings on the warning light.



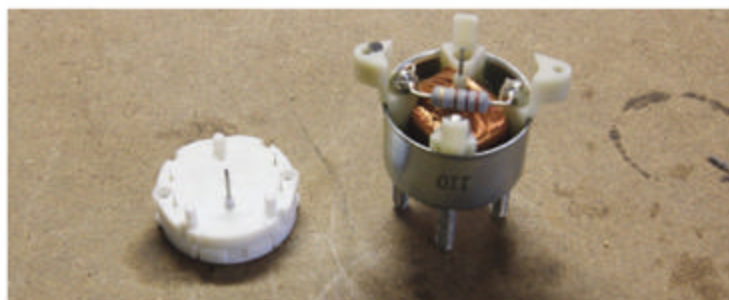
The oil pressure gauge comes with a transducer, wiring, and has both a high- and low-pressure warning light.



The fuel gauge is programmable for any sending unit. If you have an odd sending unit that doesn't use 0-90, 0-30 ohms or aftermarket 240-33 ohms, you can manually set the gauge at empty and full by using the button on the front. The needle movement uses a stepper motor and is slowed to prevent waving from sloshing fuel.



The volt gauge hooks to the battery or alternator for the signal. It works the same as the others with a high- and low-warning light.



Your muscle car used either mechanical or air core gauges from the factory. New gauges use stepper motors that have internal gears and circuit boards. This technology allows control of total sweep, the speed and stability of the sweep (like on a fuel gauge, where you want the movement to be slow and smooth as the pickup moves around), and the calibration for different sending units and applications. The gauges can also use a signal from a CAN bus (like an LS swap). Any information you can pull from the OBD port can be used to create a gauge using Speedhut's Freedom line.

Below: The tachs and speedometers use a 240-degree sweep. All other gauges are available in 90-270 degree sweeps. You can have any font, any color, any style of hash (tic) marks, custom logos printed on the face, and a selection of pointers. The gauges are all backlight through dial, so each digit and tic light up as well. The pointer uses an LED, so you can change the color to white, red, or blue. The blue ones look white in the day and blue at night, the red looks red all the time, and white can be white, red, or blue at night. There are a crop of pointers, so go to the website. For what is called the opening ceremony, you can program any and all of the gauges to either sweep to zero then to the reading or sweep from zero, to full scale, then back to the reading, just to show off a little bit. All

gauges are made in Orem, Utah, and have a five-year warranty on mechanical bits and a lifetime warranty on the electronics inside the gauge. If there is a warranty issue, Speedhut will send you the newest gauge as a replacement. **END**

## →SOURCES

Redline Gauge Works; 661/259-8891;

RedlineGaugeWorks.com

Speedhut; 801/221-1468; Speedhut.com





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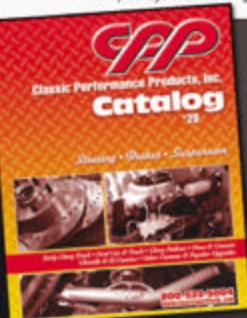
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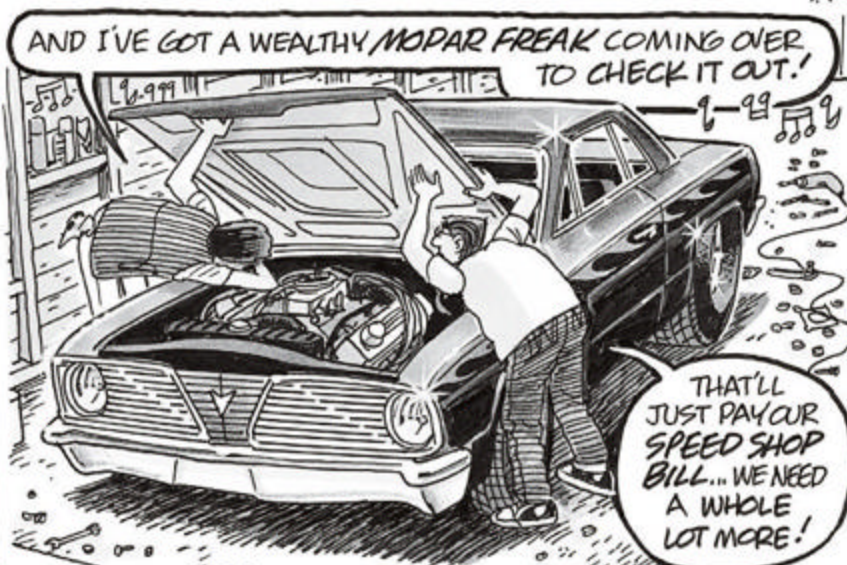
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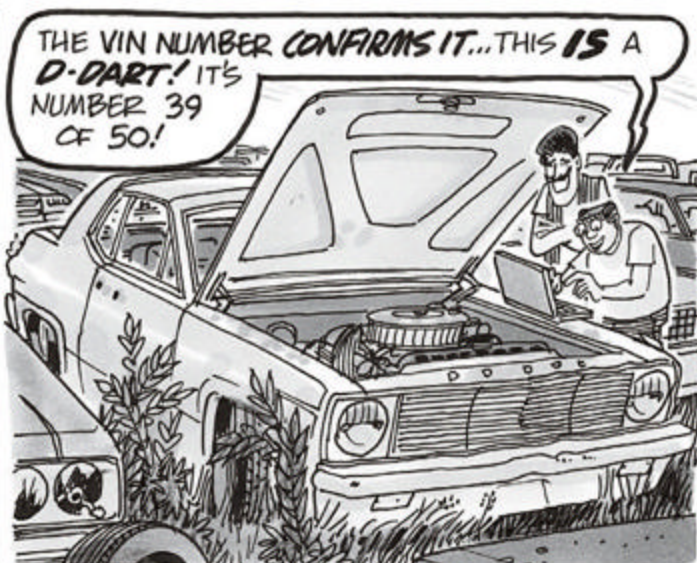
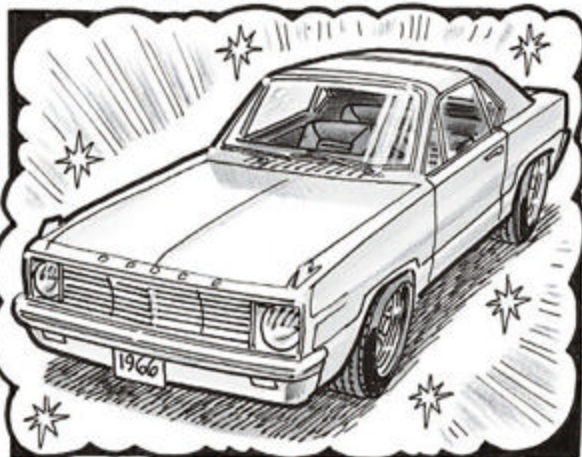




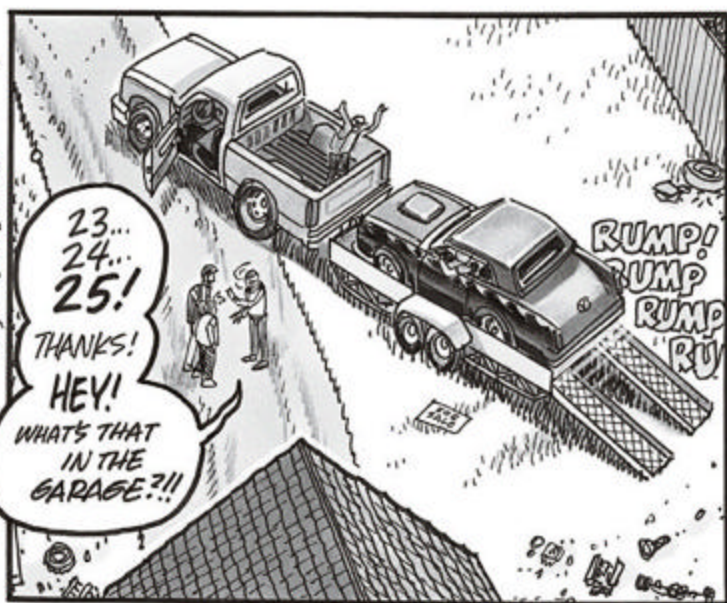




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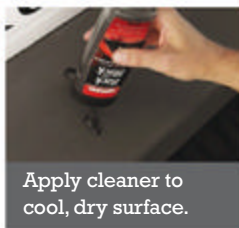
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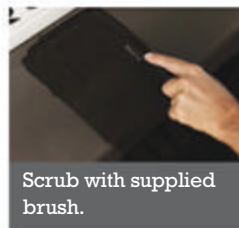
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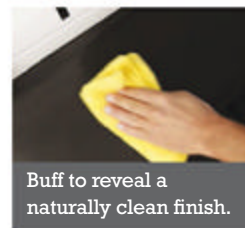
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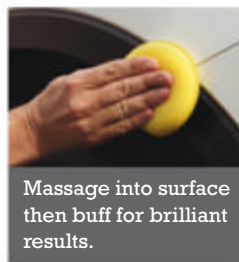


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Massage into surface then buff for brilliant results.







# REAL- WORLD, 10-SECOND CARS

## How to Build a Fast Street Car

By John McGann / Photos: John McGann

**W**hy 10 seconds? *Hot Rod* and *Car Craft* recently rented the dragstrip at California Speedway in Fontana, California. *Hot Rod* was there testing a pair of new Hellcat Challengers. We brought our

Project Demon and invited several local racers to show up as well, and the turnout was a veritable who's who of some of the fastest street cars in Southern California. Averaged out, the e.t.'s of all the cars there would be in the low-10s.

In addition, the phrase "10 seconds or less" was used in the original *The Fast and the Furious* movie as a benchmark of what's considered a fast street car. Whether or not you're a fan of the *F&F* movie franchise, several engine and car





Photo: Wes Allison

builders we've known have posited that that infamous line was inspiration for the current generation of their customers. "Whether or not they know what it means, people come in asking us to build them a 10-second car," one of the

car builders recently told us. While it's easy to make the power, you can't build a car that runs 10s simply by slapping parts together. For those who want to know, here are some recipes to follow. As a bonus, we included some cars that

are a little faster than 10s. What you won't find is any fluff, crap, or anything not needed to go fast. Yes, it's expensive to build a car this quick, but careful planning, shopping, and some DIY can get you there without overspending.



## DONNIE HUGHETT

King Donnie, “The Alameda Kid,” is a legend in Southern California who’s been racing as long as he’s been driving a car. He’s got stories of racing a Vega at Brotherhood Raceway at Terminal Island while it was still open. After the Vega, he raced a small-block-powered Chevette with a shot of nitrous. That car almost killed him in a crash that left him with a plate in his arm, pins in a femur, and nearly paralyzed from the waist down, but he was back in a car making 9-second passes at LA County Raceway (before it closed, too) weeks sooner than doctors predicted he’d even be walking.

Donnie has owned this 1964 Chevrolet Nova for more than 10 years, and, yes, it runs a lot faster than 10s. “It’s a money pit,” Donnie said. “I just wanted a 10-second car when I bought it. It was a shell [at the time], but the previous owner said it used to run 10s.” The car wasn’t quite as street- or track-ready as Donnie was led to believe. “The steering wheel would barely turn. I eventually had to replace the front end of the car,” Donnie said. He also had to rebuild the rollcage, which is now certified to 8.50s. His biggest problem now is dialing back the power so he can hook up at the track. He’s making about 900 hp at the rear wheels with a 400ci small-block. Starting with a ProComp block, the combination consists of an RPM International crankshaft, Eagle connecting rods, and RaceTech pistons. With the addition of AFR’s 227 cylinder heads, the compression ratio is 11.8:1. The heads were ported, but only flow about 312 cfm. Donnie said he could have had them worked over for more high-lift flow, but didn’t want to sacrifice their strong mid-lift flow he thinks makes the

combination work so well. The cam is an Isky solid-roller that’s custom-ground to Donnie’s specs. A 1,050-cfm Holley Dominator carburetor is perched on a Wilson-modified Dart single-plane intake manifold and a 20-year-old NOS Cheater plate system is sandwiched between. Donnie adds about 200 hp with the nitrous kit, dialing the tune-up in with an NOS Time Based Progressive Controller, which allows him to gradually add nitrous from 0–100 percent duty cycle over as many as 10 seconds from when he first launches the car. Normally, he has the system set to launch the car with about 25–30 percent nitrous off the line, increasing to 100 percent within 3 seconds of the launch. In his last outing at Irwindale, Donnie had to dial the nitrous back to about 10 percent off the line and 4 seconds duration, because he was doing too big of a wheelstand with his normal settings.

That’s an interesting problem to have, huh? Donnie mused that he may need to put wheelie bars on the car soon. “I did a 300-foot wheelie at Irwindale, and I was mad. I had to get out of it and only ran a 6.14 [in the eighth-mile].” That time roughly converts to 10.12 in the quarter-mile, which is easily 1 second off what the Nova is capable of running. “The car has run high-8s—and should go faster. It’s hard to make a clean pass,” Donnie said. At our track day in Fontana, Donnie pulled a huge wheelie and ran 8.95 at 147 mph.

The rest of the drivetrain consists of a Powerglide transmission and Moser 9-inch with 4.30:1 gears on a spool. Those cool fenderwell headers are from Stahl. The 1 $\frac{7}{8}$ -inch primary tubes lead to 3-inch collectors and on to a



3-inch system with Dynomax Race Bullet mufflers.

During the week, Donnie is an engine builder and technician at Superior Automotive Engineering, a performance shop in Placentia, California. He’s worked there for 15 years and continues to work out of his home—like he’s always done—building engines, rollcages, and doing custom installs. His Nova was supposed to appear in *Furious 7* doing a wheelie while racing one of the movie’s regular characters, but the scene got cut before they could film it. It’s believed studio executives didn’t want to risk a possible injury on the set, especially so close to the death of Paul Walker. TMZ even did a report on the scene, complete with a picture of Donnie’s Nova, though it was misidentified as a Chevelle.



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## THE GYPSIES: GYPSY MIKE AND RONNIE MARKS

"The Gypsy Boys" are also ubiquitous in the California racing scene, and Gypsy Mike and his 1968 Camaro are probably the best known. Mike has owned the Camaro for more than 20 years, and he competes in the Pacific Street Car Association's Hot Street and True 10.5 classes with it. The Camaro has run a best of 7.90 at 169 mph with no power-adders. The engine is a 549 big-block Chevy, built with a Dart block, Callies crank, Venolia aluminum connecting rods, and SRP pistons. The Dart 385 cylinder heads were ported by Darren Morgan, and the compression ratio is 14.0:1. Mike's Transmission in Lancaster, California, built the Powerglide transmission, and the axle is a 9-inch with a Mark Williams spool and axles and 5.30:1 gears.

Not quite as fast—but much more streetable—is Gypsy Ronnie Marks' 2011 Mustang. Take away the stickers and lightweight wheels, and you'd



→ The Gypsies wish to thank Gomez Tires for helping with tires for their race cars.



never guess this car has run a best so far of 9.02 at 159 mph. Ronnie's also a longtime racer who's owned a string of Mustangs, mostly Fox bodies, throughout the years. He bought this car new from Galpin Ford in Van Nuys, California, specifically to use it as a foundation to build a 9-second (and maybe faster) daily driver. He initially added an F1 Procharger, which snapped the stock crankshaft snout in short order, prompting him to switch to turbochargers as his power-adder of choice. Addiction Motorsports in Canoga Park, California, took over the build, adding a forged rotating assembly to the short-block, and building the plumbing for a pair of Precision PT6266 turbochargers. They push 18 psi into the engine through the stock intake manifold and stock cylinder heads and camshafts. The compression ratio is 11.0:1. Josh Deeds of Deeds Performance in Chatsworth, California, built the heat-exchanger system to keep the intake charge as cool as possible. Deeds Performance also built the headers. MSD's Programmable Turbo Launch Boost



## JAMES AND TESS DESRAT

We've been hearing rumors of a mysterious Ford up in the desert area of northern Los Angeles County driven by a woman who never lifts, no matter how badly the car gets out of the groove. We snooped around to discover this budget-built 1973 Ford Maverick owned by James "Turbie" DeSrat and his wife, Tess. James built and tunes the car and Tess is the driver. James had actually been building the car for someone else who lost interest and let him keep the car. The engine is a 302 out of a Fox-body Mustang with the stock rotating assembly. He added a pair of out-of-the-box Trick Flow 170





Controller regulates the wastegate to keep boost at precise levels from staging and launch through to the finish line.

Interestingly, the stock 6R80 automatic transmission can be programmed in a way that makes the transmission operate as if it had a transbrake installed. You'll need to take it to a tuner to make this happen, and we are currently investigating what's involved with this job, so stay tuned for more info. Ronnie will be having his car reprogrammed by Addition Motorsports soon, and with the electronic transbrake feature programmed into the transmission, he's hoping to cut some time from his current best 1.49 60-foot time, and expects to drop overall e.t.'s into the 8.50s. The car's 8.8 rear axle was rebuilt at Manny's Hardcore Performance with 3.31:1 gears and 33-spline axles. Carlin Fabrications built the roll bar, and his Mustang weighs in at a chunky 3,900 pounds with him in it, making the car's performance that much more impressive. The suspension is stock, with the exception of a quartet of Viking shocks: single-adjustable in the front, and double-adjustable in the rear. Ronnie told us his goal was to build an 8-second daily driver, and we suspect he will have achieved that goal by the time you read this.

heads and Trick Flow's stage-one hydraulic roller cam, a Victor, Jr. intake, and a Holley 750 Double Pumper modified for blow-through applications by Kevin at Carburetor Solutions Unlimited. Vortech's S-Trim supercharger delivers about 8 psi of boost, and instead of an intercooler, James injects nitrous right at the supercharger's outlet. Out of a fully charged bottle, nitrous temperatures hover around -127 degrees Fahrenheit, enough to act as a chemical intercooler in this application. The C4 transmission was built by James and Darren at ProTrans with a 4,500-stall

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torque converter. Out back is a stock Ford 8-inch with stock axles and 4.11:1 gears in the stock differential with a mini-spool installed. James installed Calvert Racing Split Monoleaf springs and Cal Tracs bars with 9-way adjustable rear shocks. MSD's 6AL2 programmable ignition box adjusts timing with a boost-retarding table that James can program using a MAP sensor. The rev limiter is set at 7,400 rpm, and Tess generally shifts at 7,200 rpm. Fuel is provided by Holley's 170-gph mechanical fuel pump. James made the exhaust system out of aluminum, saying it was 60 pounds lighter than an equivalent system made from mild steel.

The Maverick recently made 590 hp at the rear wheels, and Tess' best pass so far is a 6.58 at 105 mph in the eighth-mile. At our track day, the tune-up was a bit off and she was running in the 11s, but the car is capable of low-10s. James is a self-taught mechanic and is the lead technician at Lancaster Sierra Toyota. Tess is a home health aide, and she used to drive the Maverick to her patients' houses every day. She told us about driving some poor 93-year-old lady to play bingo, nearly sending her to an early grave. "She had her eyes closed the whole time!" Tess said.



## MENO COTA

Here's a combination we expect to see more of, because S10s are so cheap and readily available. Meno and his brother, Jorge, built this truck at home, and **Car Craft** ran an article about it a while ago. Not much has changed since then, and they are still fine-tuning it, but the little truck has the potential for easy 10s in the quarter-mile. Buy yourself a cheap truck, drop in a decent V8, and go fast.

## LALO MOJARRO

Lalo's twin-turbo Fox body ran in **Car Craft**'s April 2014 issue, so we won't devote too much space on it here. Basically, it's a twin-turbocharged, small-block Ford that we were told was a stroked 302 with ported Trick Flow heads. The engine is force-fed by a pair of 72mm Turbonetics turbochargers, and power gets through the ground via a 3,200-stall Continental torque converter, a Mike's Transmission Powerglide, and an 8.8 with a spool. Check out the wheels-up launch, which is unusual for a turbo car. At our track day, Lalo ran 9.22 at 121 mph. Compare that time with Gypsy Ronnie's 9.29 at 143 mph, and it appears as though Lalo may have been holding back a bit. We suspect his Mustang is a solid mid- to low-8-second ride that is still totally streetable.











## JOE LOPEZ, JOANNA LOPEZ, AND JOSHUA LOPEZ

Joe Lopez has been racing all his life, so it's no surprise that his children inherited the enthusiasm and passion for the hobby. Joe owns the 1979 Malibu wagon in these pictures, and it's one of nine race cars he currently owns. His 24-year-old son, Joshua, owns the yellow 1972 Camaro, and 22-year-old daughter Joanna owns the black and silver 1971 Camaro. Joe bought the Malibu as an \$1,800 rolling chassis. He dropped in an 11.0:1 350 with World Products heads, an Isky Mega280 cam, a Victor Jr. intake, and a 600-cfm Holley carburetor. The transmission is a TH350 with a 3,500-stall converter, and the rear is a 7.5-inch with 4.65:1 gears and an Eaton Posi. He runs a

small shot of nitrous, about 150 hp, which gets the car to about 11.20 e.t.'s in the quarter-mile.

The 1971 Camaro was Joanna's daily driver for several years while she attended classes at Citrus College and the University of LaVerne. Joe built an 8.0:1 383 with a Weiand 177 supercharger and a custom-ground cam from American Cam. The specs are similar to Isky's 305. The rotating assembly consists of an Eagle crank and rods and Probe pistons. The Pro Comp cylinder heads were built by Larry's Performance in Montebello, California, and the Holley 750 HP carburetor was built by The Carb Shop in Ontario, California. A TH350 and stock GM

12-bolt propel the car to 11.50 in the quarter, and the car is all steel except for the fiberglass hood. A set of Cal Tracs traction bars control wheelhop, and Koni shocks are on all four corners.

Josh's 1972 Camaro was a more recent build. Josh built the 406-inch small-block starting with a 0.030-over 400 engine block. It's got a Scat crank and rods, Probe pistons, and Pro Comp heads. The compression ratio is 10.0:1. The cam is an Isky solid flat-tappet grind and Josh installed a nitrous kit, but it and the completely stock suspension need some tuning before he's able to make a clean pass. On the motor, the car has run 11.70 with a TH350 transmission.





## FORTINO SANCHEZ

Fortino showed up to our track day with a combination we expect to see plenty more of: a 6.0 LS engine with a turbocharger swapped into his 1991 Mustang. The engine is a 100,000-mile LY6 out of a 2008 Chevy 2500 pickup, and all he did to it was swap in an LS9 cam and valvesprings. The turbocharger is an 80mm Garrett he bought used from a friend, and he built the turbo plumbing with a pair of inexpensive LS1 headers facing forward and a CSX Racing intercooler. A Holley Twin Pump fuel pump draws from a Summit Racing fuel cell and feeds Bosch 102-gph fuel injectors. Tom at Izzy Performance tuned the stock GM ECM with HP Tuners software, and Turbosmart's e-Boost2 electronic boost controller allows him to ramp in overall boost throughout the duration of his pass. Steve Sharp built the TH350 transmission with a 10-inch Continental 3,500-stall torque converter, and his 8.8 rear axle was built with Strange 35-spline axles, a C-clip eliminator kit, and 3.31:1 gears on a spool. The front K-member was replaced with one from AJE Racing, and UPR trailing arms and Viking coilovers are out back. The car's gone as fast as 9.0 at 151 mph, and Fortino is still fine-tuning the car with his sights on mid-8s. **END**



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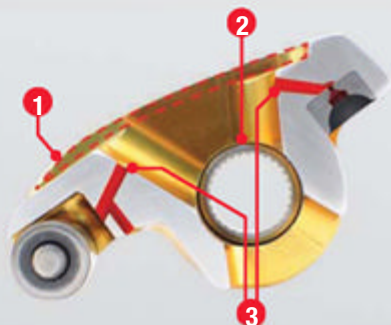


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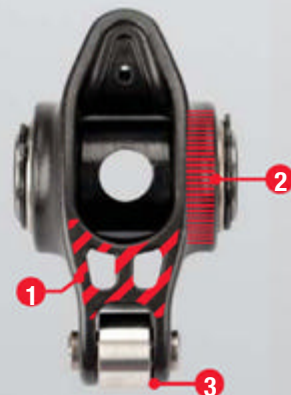
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# STREET



## Eddie Holbrook's Turbocharged 1967 Camaro

**S**afety is a big concern when you're dealing with four-digit horsepower in a street-car application, but it's cool to see a scary-fast car that somehow gets past the rule books and angry tech officials. We're not talking about a Pro Mod without a rollcage but a stock-bodied, stock-interior muscle car that packs too much power for its own good. This is that type of car. Eddie Holbrook is the owner, and he built

the car at his home garage with the help of several friends.

It's a first-generation Camaro, so it probably isn't the first one of these you've seen at the dragstrip or on the street. However, it might be the first one you've seen with a 5-inch hole cut in the front fender to allow the massive exhaust pipe to exit the car. The exhaust is from an 88mm turbo-charger, which feeds a bored-and-stroked LS engine with



# KING

By Tommy Lee Byrd /  
Photos: Tommy Lee Byrd



about 20 pounds of boost. This street car means business, and he's only scratched the surface of this car's potential at its first outing: the Holley LS Fest in Bowling Green, Kentucky.

Eddie has been drag racing the car for a couple years, but tried a new setup at LS Fest. He actually won the Hillbilly Arm Drop Drags (held at Combs Airport near Eddie's

hometown of Prestonsburg, Kentucky) with this car, but decided to step up the game with more horsepower. Most of Eddie's hometown dragstrips are relaxed on safety inspection, which has allowed him to sneak under the radar. His car doesn't have a rollbar, which would get him kicked out of the majority of tracks in the country. But he successfully made several passes at Beech Bend Raceway during LS Fest





without anyone running him off. Even with a few hiccups, the car still ran a 10.29 at 142 mph in the heat of the day! He's almost to the point of needing a parachute by NHRA rules (150 mph)—this is one fast street car.

If Eddie plans to continue running at bigger events like LS Fest, he'll obviously have to install a rollcage and lots of other safety equipment to get it through tech. Somehow, he squeaked by this time around, but probably won't be so lucky next time. Regardless of its lack of safety equipment, this Camaro is a king on the street and fairs pretty well at the track too.







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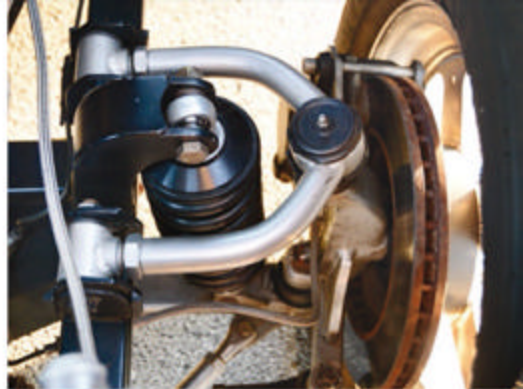
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## TECH NOTES

**Who:** Eddie Holbrook

**What:** 1967 Camaro

**Where:** Prestonsburg, KY

**Engine:** Eddie started with a 6.0L truck engine and replaced the original rotating assembly with an Eagle crankshaft with a 4-inch stroke, Eagle H-beam connecting rods, and Wiseco forged pistons. The longer stroke and 0.030-inch oversized cylinders create a 408. The cylinder heads are GM 317 castings, which feature Lunati valve-springs and Comp Cams pushrods to support the custom-grind Brian Tooley Racing camshaft under serious loads of boost. Speaking of which, the bored-and-stroked LS engine features a Forced Induction F188x turbocharger, pushing 20 pounds of boost into a CSU blow-through carburetor and Edelbrock Victor Jr. intake manifold. An Aeromotive boost-referenced fuel system provides a steady flow of 93-octane pump gas to the engine, while an MSD 6010 ignition box provides the spark.

**Transmission:** Behind the 408 is a TH400 automatic transmission, which is built to withstand some serious abuse. Transferring horsepower into motivation is the job of a Freak Show torque converter, which stalls to 3,400 rpm.

**Rearend:** A 9-inch rearend housing is narrowed just enough to stuff a set of 10-inch-wide wheels under the back of the car, and it features a back brace for extra strength. The housing is packed with a Strange spool, Quick Perfor-

mance axles, and a 3.25:1 gearset.

**Suspension:** Although it looks pretty tame from the top, Eddie's Camaro has a bunch of awesome parts underneath. It all starts with a Martz Chassis front subframe, which comes out of the box with adjustable coilovers, adjustable tubular control arms, and rack-and-pinion steering. Out back, the suspension consists of Detroit Speed lowering leaf springs, with Calvert Racing CalTracs and Competition Engineering shocks to help tame the suspension actions. Stock-style disc brakes roll up front, while lightweight Aerospace discs are fitted to the rear end.

**Wheels/Tires:** Rolling stock for Eddie's Camaro consists of 15x3 1/2- and 15x10-inch Champion wheels. The skinny fronts mount to a pair of Mickey Thompson Sportsman 26x7.50-15 tires, while the bead-locked rear wheels mount to Mickey Thompson 275/60R15 drag radials.

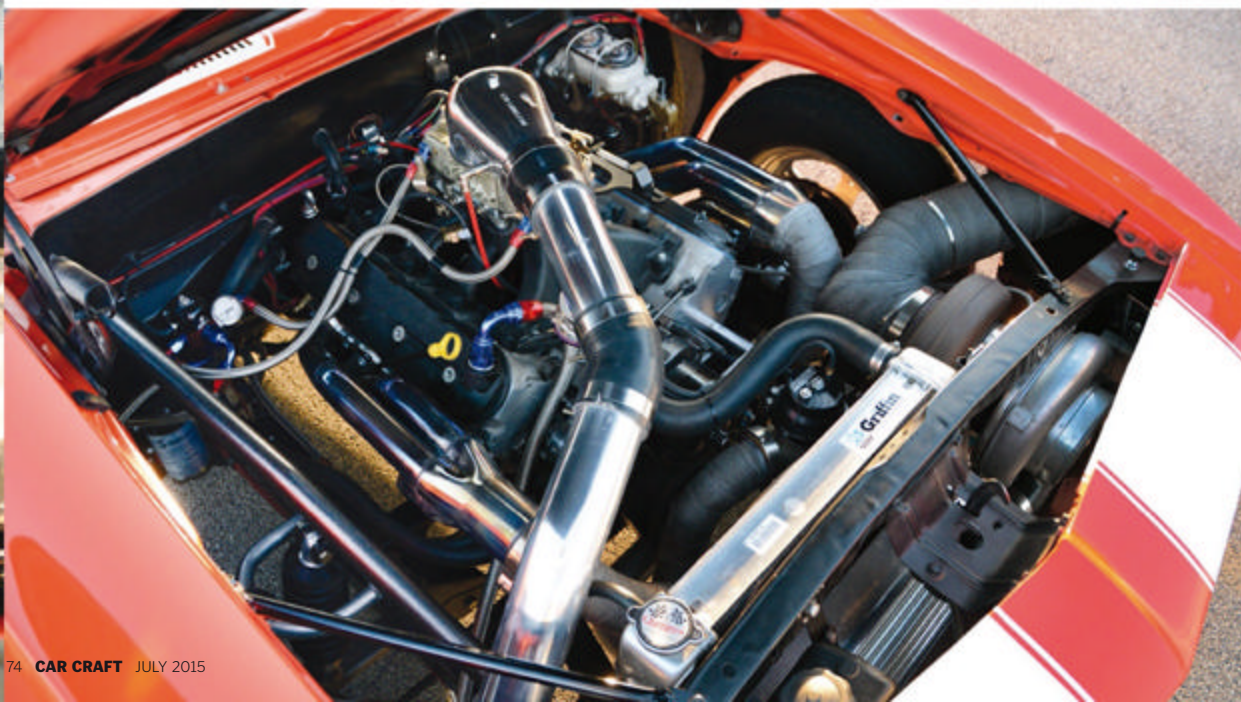
**Paint/Body:** Aside from the 5-inch hole in the factory GM front fender, the body panels on Eddie's Camaro are mostly stock. The grille and some of the trim has been blacked out and the front bumper has been removed all together. Behind the grille, you'll see the 88mm turbocharger, as well as the air-to-air intercooler. You'll also notice an oval-shaped hole in the hood, which is necessary to clear the CSU carb hat and turbo piping. The only additions to the rear portion of the body are a few extra pounds of rubber, thanks to plenty of quality time in the burnout

box. In case you didn't notice, Eddie's Camaro also has a pretty slick Huger Orange paint job with white Super Sport stripes.

**Interior:** The inside of Eddie's 1967 Camaro doesn't look like your typical 9-second car. It has stock bucket seats, no rollbar whatsoever, and a Simpson two-point lap belt. Eddie snuck past the tech guys at Beech Bend and rarely gets any grief from his local track, Mountain Park Dragway in Clay City, KY. The interior is finished nicely with a selection of Auto Meter gauges inside a carbon-fiber insert, as well as a radio-delete center dash panel. A leather-wrapped billet steering wheel offers a bit of comfort in this mostly stock environment, while the TCI Outlaw shifter is all business.

**Performance:** At Eddie's hometown tracks, eighth-mile racing is the norm, and his best elapsed time before the newest round of upgrades was a 6.40. That equates to high 9s in the quarter. With the new setup, it didn't spool the massive 88mm turbo until about 100 feet down track and still managed a 10.29 at 142 mph. There is no doubt this car has low 9s in it, but Eddie will likely stay with the local eighth-mile racing and see if he can get it in the 5s.

**END**





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# KILLER CADILLAC

By Jason Sands /  
Photos: Jason Sands

## Testing a Livernois Motorsports tuned CTS-Vsport

**W**hen we first heard of Cadillac's 2015 CTS Vsport, it sounded like some sort of gimmick to drum up sales. How could it possibly live up to any V designation with the 580hp CTS-V also in the model lineup? Trust us, it did. This thing is fast. Remember the legendary Buick Grand National? This time, GM has brought back turbo V6 power with the new Vsport, and we were even able to get our hands on a pumped-up version, which had been modified with a 93-octane-only Livernois Motorsports tune that bumps peak boost from 14 psi to 18.

How fast is it? Well, after some practice, we ran a 12.75 at 112 mph with two guys, a full tank of fuel, and about 100 pounds of junk in the trunk. Since the Cadillac only weighs 3,860 pounds with a bit of fuel and nothing in the back (we weighed it later), our race weight of 4,450 pounds made Livernois Motorsport's claims of low-12s (at 400

pounds lighter than we were at) believable. Moreover, we were just running normal street tires, and a 2.02-second 60-foot time was the best we could squeeze out of it without wheelhop or John Force burnouts.

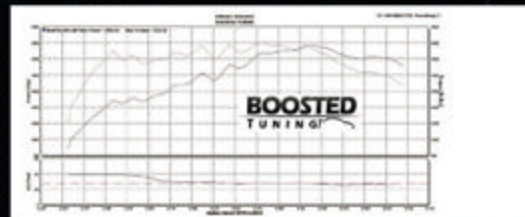
Based on the times we were running at the track, we wanted to verify its horsepower numbers, so we took the car to Boosted Tuning in Chico, California. Specializing in Evos, the guys at Boosted were eager to put the domestic Caddy on the rollers, and eyebrows were raised when the numbers popped up. Stock, the Vsport puts down about 350–360 hp to the wheels, so we were pretty happy when 392 rwhp came up on the screen, along with 401 lb-ft of

torque. That's not the whole story, however. The reason the Vsport feels so fast is due to the fact that it made 350 lb-ft of torque as low as 3,000 rpm. With a shift point of 6,500 rpm, there was virtually no point in the powerband that the V6 wasn't making steam.

Overall, we were impressed with the car's capability, especially considering it can pull more than 0.95 g on a skidpad and regularly knock down fuel-economy numbers of 25–30 mpg. While other muscle cars like the ZL1 Camaro or Shelby Mustang might grab most of the headlines, we're proud to report that the Vsport brings V6 performance back in a big way. **END**







## MORE INFO

**Boosted Tuning;** 530/897-0828;  
[BoostedTuning.com](http://BoostedTuning.com)

**Livorno Motorsports;** 313/561-  
 5500; [LivornoMotorsports.com](http://LivornoMotorsports.com)



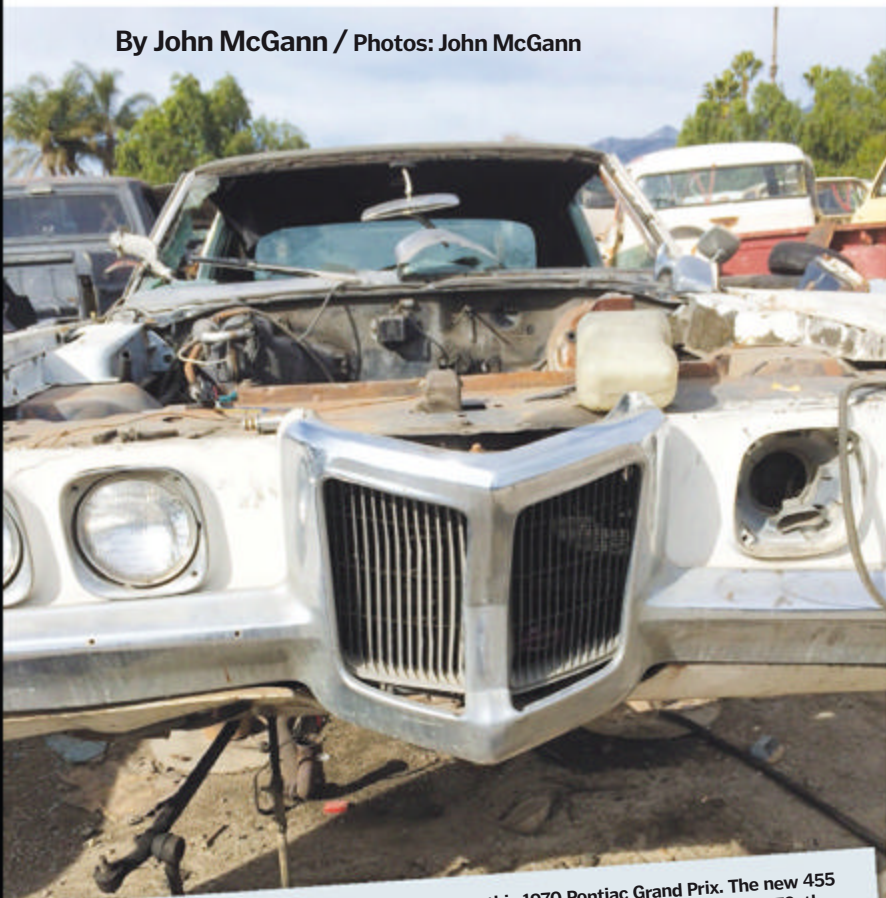
# JUNKYARD CRAWL

## Trawling Local Junkyards and Scoring Big

**T**he Pick Your Part in Monrovia, California, has cemented its status as our favorite junkyard in Southern California. It simply has the best variety of old and not-so-old

collection of cars ripe for the picking, whereas other area yards seem to only be filling themselves with newer front-drive cars that are useless to us. Check out the latest findings from a recent trip.

By John McGann / Photos: John McGann



Some lucky jerk already nabbed the engine from this 1970 Pontiac Grand Prix. The new 455 engine replaced the previous year's 428. With 10.75:1 compression, it was rated at 370, the same as the 428, but it made more torque. The base engine available in 1970 was a 350hp 400.



Somewhere under all those hoses and ducting is a 351 Windsor waiting for a rebuild and a new home. Follow *Car Craft's* recent 351W build recipe for an easy 590 hp, as seen in the June 2015 issue.



Near the white pickup with the Windsor was this black 1992-ish F-150 work truck with a 302 and M50D five-speed. These transmissions were originally built by Mazda and are based on the lighter-duty version found in the Ford Ranger and Mazda B2200. SmartPartsAuto.com has some interesting information on these transmissions, claiming they are a viable swap into MN112 Thunderbirds and Cougars (1989-1997).





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Concord, NC • July 25-26

**Pikes Peak Int'l Raceway**  
Fountain, CO • August 8-9

**Road America**  
Elkhart Lake, WI • August 28-30

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We found a pair of 500ci Cadillac engines, one from a 1972 Deville and the other in this 1978 Fleetwood. The later engine has an early form of GM's electronic fuel injection. Check out the aluminum throttle-body and individual-port fuel injectors on the spindly looking fuel rails. A quick search of Amazon turned up a couple Cadillac factory service manuals dealing solely with diagnosis and repair of this system.



While we were there, we grabbed a few of these power-distribution blocks, seen here on the firewall of an early 1990s Chevy pickup. We can use these to add circuits to some of our own project cars.



Nothing could be salvaged from this 1990s Suburban that was so thoroughly burned it seemed as if it had been done on purpose. The windshield had melted to the window frame and the aluminum A/C condenser had melted. We Googled it—aluminum melts at just over 1,200 degrees Fahrenheit.



Our big score came when we stumbled upon this mint 1979 Oldsmobile Cutlass. It was so clean, we wondered what it was doing in the junkyard. We didn't ponder its fate too long, however, before we began snatching its intact bumper fillers. We also grabbed the taillights, rear valance, and one of the outside rearview mirrors—all of which are destined for our project 1980 Cutlass drag car.



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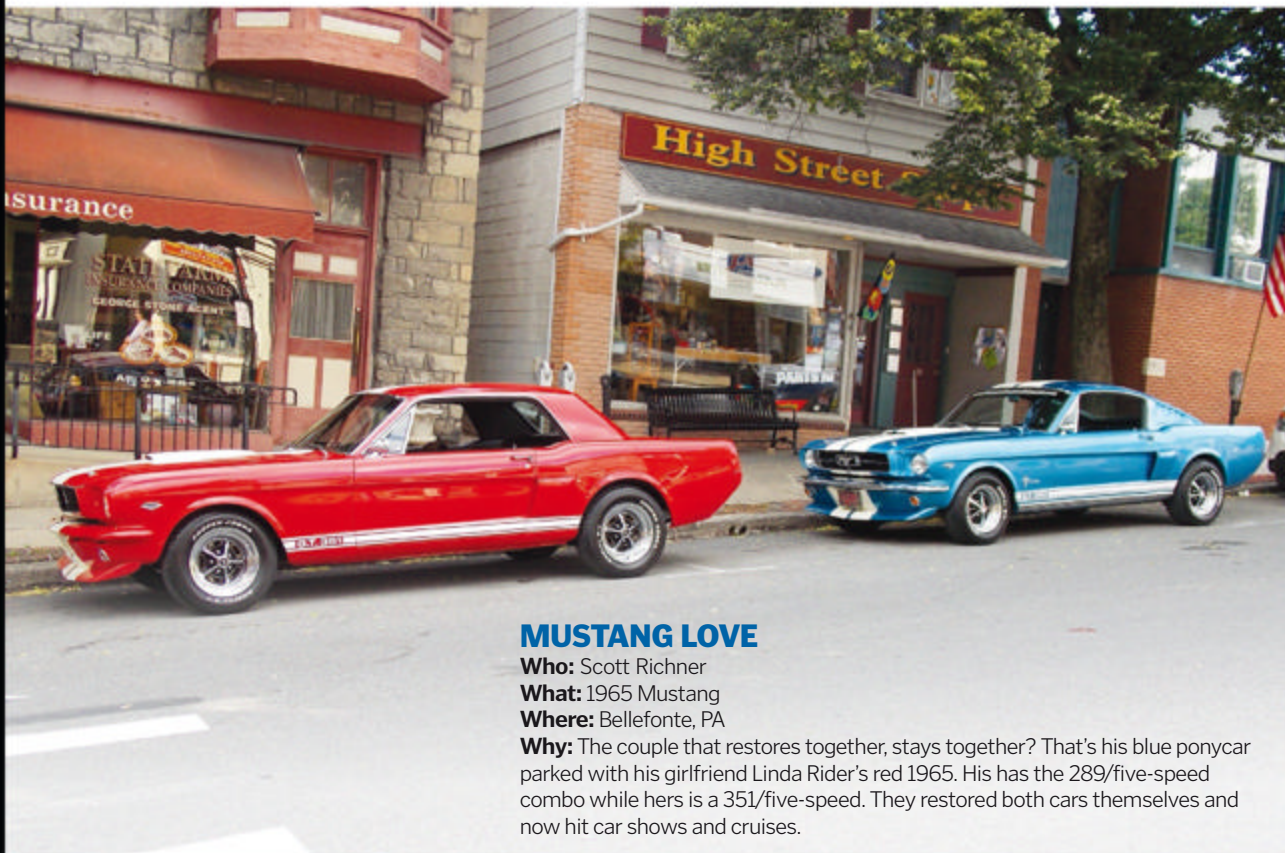


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# WTF? (WHERE'S THE FUN?)



## MUSTANG LOVE

**Who:** Scott Richner

**What:** 1965 Mustang

**Where:** Bellefonte, PA

**Why:** The couple that restores together, stays together? That's his blue ponycar parked with his girlfriend Linda Rider's red 1965. His has the 289/five-speed combo while hers is a 351/five-speed. They restored both cars themselves and now hit car shows and cruises.

## WTF? (WHERE'S THE FALCON?)

**Who:** Charlie Schryver

**What:** 1964 Falcon post

**Where:** Daphne, AL

**Why:** "To go against the grain by building and running the engine most throw away when they build a Falcon," Charlie explained. "The little bird retains most of the usual throw-away parts: four-lug suspension, bench seat, 7¼-inch rear end. But the questions and funny looks start when I pull into the cruise-ins with the lope at idle then pop the hood. Even most of the seasoned car guys swear it sounds like a V8 at idle." It's got a 1979 200ci inline block, 9.0:1 compression, plus Clifford dual-outlet header and dual 2-inch turbo mufflers. Its best time so far has been 10.29 at 62 mph in the eighth-mile in 90-degree weather.





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# WTF?



## FIRST, DO NO FARM

**Who:** Jim Baskin

**What:** 1936 Chevy truck

**Where:** Hilltown, PA

**Why:** Dave Rihl sent this pic of his neighbor, friend, and full-time farmer Jim Baskin with his Chevy truck. Turns out Jim used to race Bill "Grumpy" Jenkins in the early days. The truck has a 350 Chevy mill with Edelbrock intake and heads, a four-barrel Edelbrock carb, rack-and-pinion steering, and a fuel cell Jim built. "He loves coming over and doing burnouts for the kids in the neighborhood," Dave said.

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## →LETTERS



### OBLIGATORY MUSTANG BEAUTY SHOT

This strangely romantic pic came from the new Bulletproof Mustang club out of Texas. These are some of the Houston Metropolitan crew's Mustangs lined up at Galveston's seawall, and in the background is the famous Pleasure Pier.

### SORRY NOT SORRY

I'm a little late sending this, but I about fell over when I saw three Pontiacs in your magazine! Holy crap, that has to be a record for you guys! I would still like to see an affordable 455 Pontiac build for an 11-second street car. I love the magazine and will keep subscribing even though you ram Chevys down everyone's throat. Great tech articles, pics, and Q&A, infused with a sense of humor. I have a 1969 GTO, so I'm obviously a huge BOP fan. Thanks and keep it up!

—Chris DeForce, via email

**Chevy medicine is good for you, like most medicine rammed down the throat.**

### 1972 VENTURA HATERS BE HATIN'

After reading your description of the Ventura, I am changing my vote. Scrap that rusted-out POS—it's too far gone.

—Mark Simendinger, via email

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# IN THE NEWS

## DUDE + 51 YEARS + T-BIRD PART IN HIS ARM

Arthur Lampitt, age 75, crashed his 1963 Ford Thunderbird into a truck about 51 years ago, and over the years assumed a medical instrument had been left in his arm, according to Huffington Post. However, during recent surgery, it was revealed to actually be a 7-inch turn signal lever from his T-bird stuck in there all these years.

## WELDING APP

You can now have welding-process fundamentals at the ready, aka on your person, aka via your iPhone or iPad, thanks to Miller. The new welding app covers MIG, TIG, and stick welding, and includes positioning, arc starting methods, troubleshooting, system requirements, definitions of things, and electrode selection. Even better, it's free. Go to the app store.



## MUSTANG: THE MOST POPULAR PASSWORD?

SplashData's deal is that it specializes in password management—and so it managed to learn that “Mustang” is the 16th most common password being used on the Internet, making it more popular than “Superman” or “Batman.” But less popular than “Password”?

## CHEVYS WIN AWARDS

Kelley Blue Book has decided the Camaro and Corvette are among the Chevy offerings that should be deemed Best Resale Value award-winners. The Camaro has scored this award four consecutive years, while the Corvette has taken the High Performance category two years running. The focus is on vehicles that retain their value during the first five years of ownership.



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# BURNOUT!!



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—Dave Luton via email





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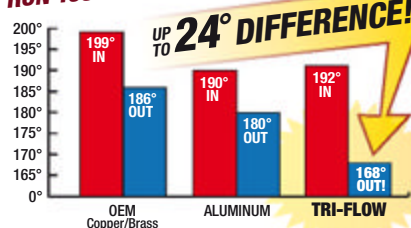
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# REAR VIEW



## ROOF SCRAPER

Here's a rare one: Ron Pellegrini's 1968 "Beware" Buick Funny Car. What's not to like? Rear-tilt fiberglass Buick GS body, unique Palamides Chassis, blown Hemi (with Buick etched on the valve covers), and beautiful paint scheme. Pellegrini, however, credits this car for the end of his 12-year racing career. It appears Beware was named appropriately, keeping the car from real competition runs. The Buick exhibited bad manners under full steam. Pellegrini posits that this tendency had roots in the unusual chassis design. In it's last serious, competitive run at Rockford Dragway, Beware broke the beams at more than 170 mph—on its roof.

**By Thomas Voehringer / Photo: Bob Swaim**

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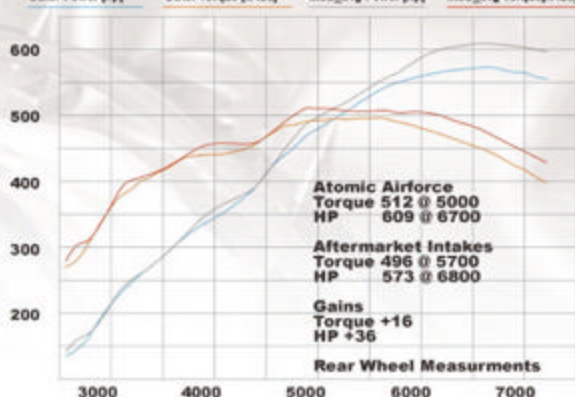


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